

HALLIBURTON

RADIAL CEMENT
BOND LOG

Company		EXTRACTION OIL & GAS INC			
Well		COYOTE TRAILS 33W-15-5N			
Field		WATTENBERG			
County		WELD		State	CO
Permanent Datum Log Measured From Drilling Measured From Date @ Time Logged Run No. Depth - Driller Depth - Logger Bottom - Logged Interval Top - Log Interval Max. Recorded Temp. CEMENTING DATA		Company EXTRACTION OIL & GAS INC			
		Well COYOTE TRAILS 33W-15-5N			
		Field WATTENBERG			
		County WELD			
		State CO			
GROUND LEVEL KB , 20 Ft. above perm. datum KB Sec: 28 Twp: 1N Rge: 68W		API No.: 051234824700			
		Serv #: 905846289			
		Location: SURFACE HOLE LOCATION: 1150' FSL & 2391' FEL SWSE			
		LATITUDE: 40.017978 LONGITUDE: -105.007602			
		NONE			
FRESH WATER SURFACE 11014931 / BRIGHTON A. NICCOLI M. TORRES		Elevation 5294' D.F. 5294' G.L. 5274'			
		Type Fluid in Hole			
		Density of Fluid			
		Fluid Level			
		Cement Top Est. Logged			
Equipment / Location Recorded by Witnessed by		SURFACE			
		11014931			
		A. NICCOLI			
		M. TORRES			
		Liner			
Protection		Production			
String		String			
Date / Time Cemented					
Primary / Squeeze					
Expected Compressive Strength		psi@ hrs psi@ hrs psi@ hrs			
Cement Volume					
Cement Type / Weight		/ / /			
Formulation					
Mud Type / Mud Wgt.		/ / /			
Borehole Record					
Run Number		Bit	From	To	Size
ONE		12.25	SURFACE	1500	9.625
TWO		8.5	1500	15925	5.5
Casing & Tubing Record					
		Weight	From	To	
		36#	0	2400	
		20	0	16609	

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HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

Comments

CBL - GR - CCL RAN IN COMBINATION.

LOG RECORDED WITH 0 PSI WELLHEAD PRESSURE.

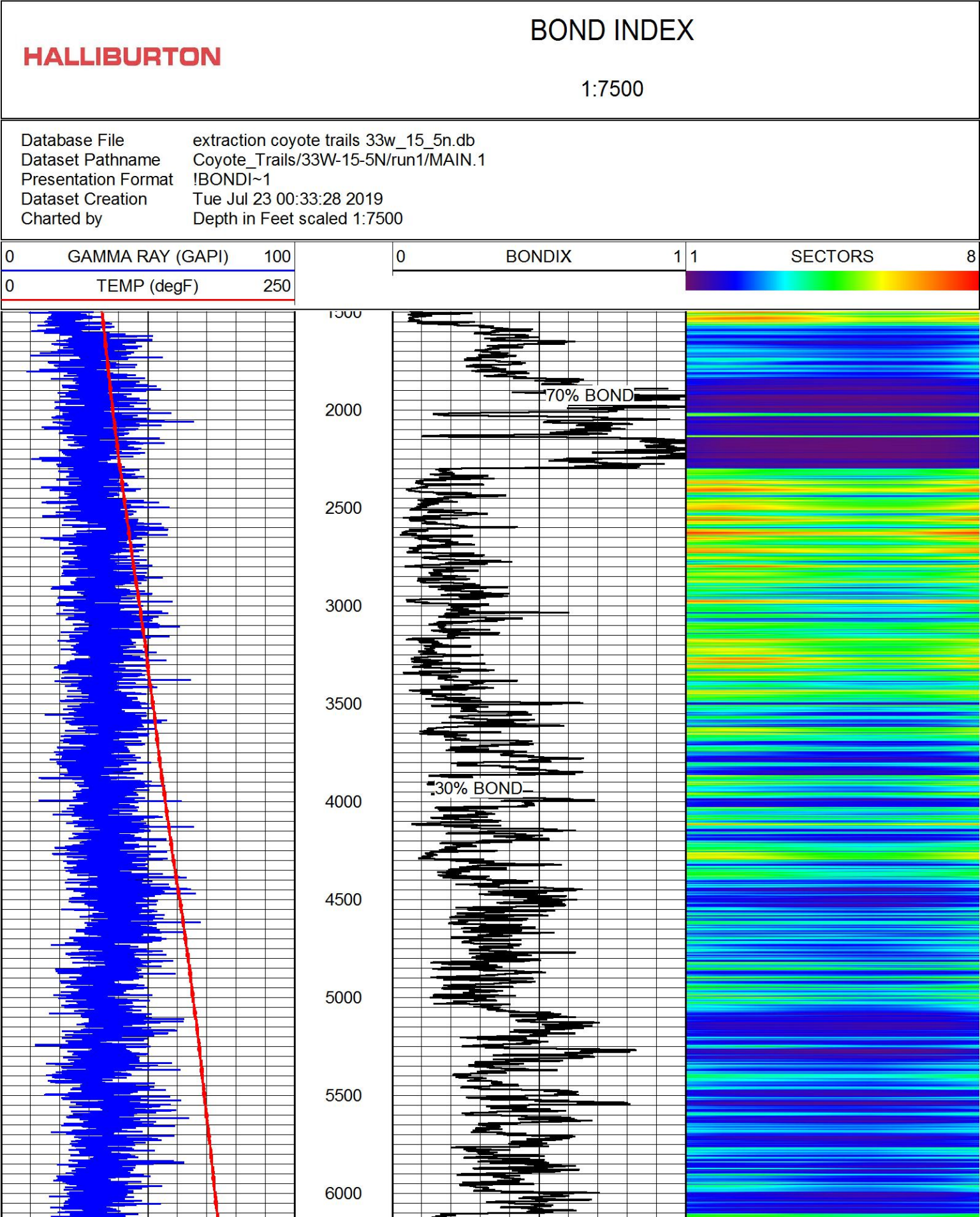
LOG CORRELATED TO GROUND LEVEL.

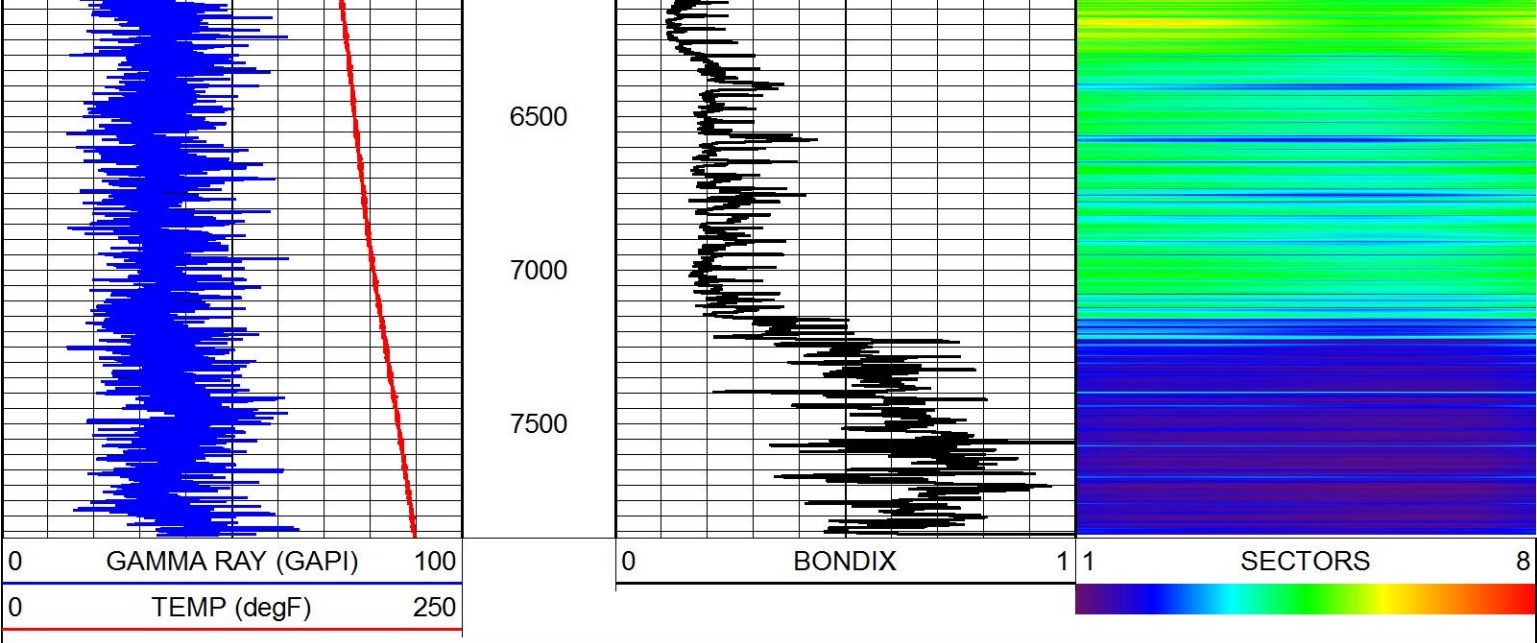
BOND INDEX CALCULATED FOR 3000 PSI COMPRESSIVE STRENGTH CEMENT.

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES.

Service Ticket No.	905846289	API No.	051234824700	PGM Ver	WARRIOR 8
The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client					
EQUIPMENT DATA					
RCBL		GAMMA CCL			
Run No.	ONE	Run No.	ONE	Run No.	
Serial No.	11577056	Serial No.	11021927	Serial No.	
Model No.	PROBE	Model No.	PROBE	Model No.	
Diameter	2.75	Diameter	2.75	Diameter	
LOGGING DATA					
General Data					
Pass	Depths		Well Head	Speed	Logging Run Comments
No	From	To	Pressure	Ft/Min	

ONE	KOP	SURFACE	0 PSI	80	MINIMAL FREE PIPE			
	GAMMA RAY		AMPLITUDE		VDL		RADIAL MAP	
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	100	0	100	200	1200	1	8
DIRECTIONAL INFORMATION								
Maximum Deviation		90	deg. @		KOP	7740		





BOND INDEX

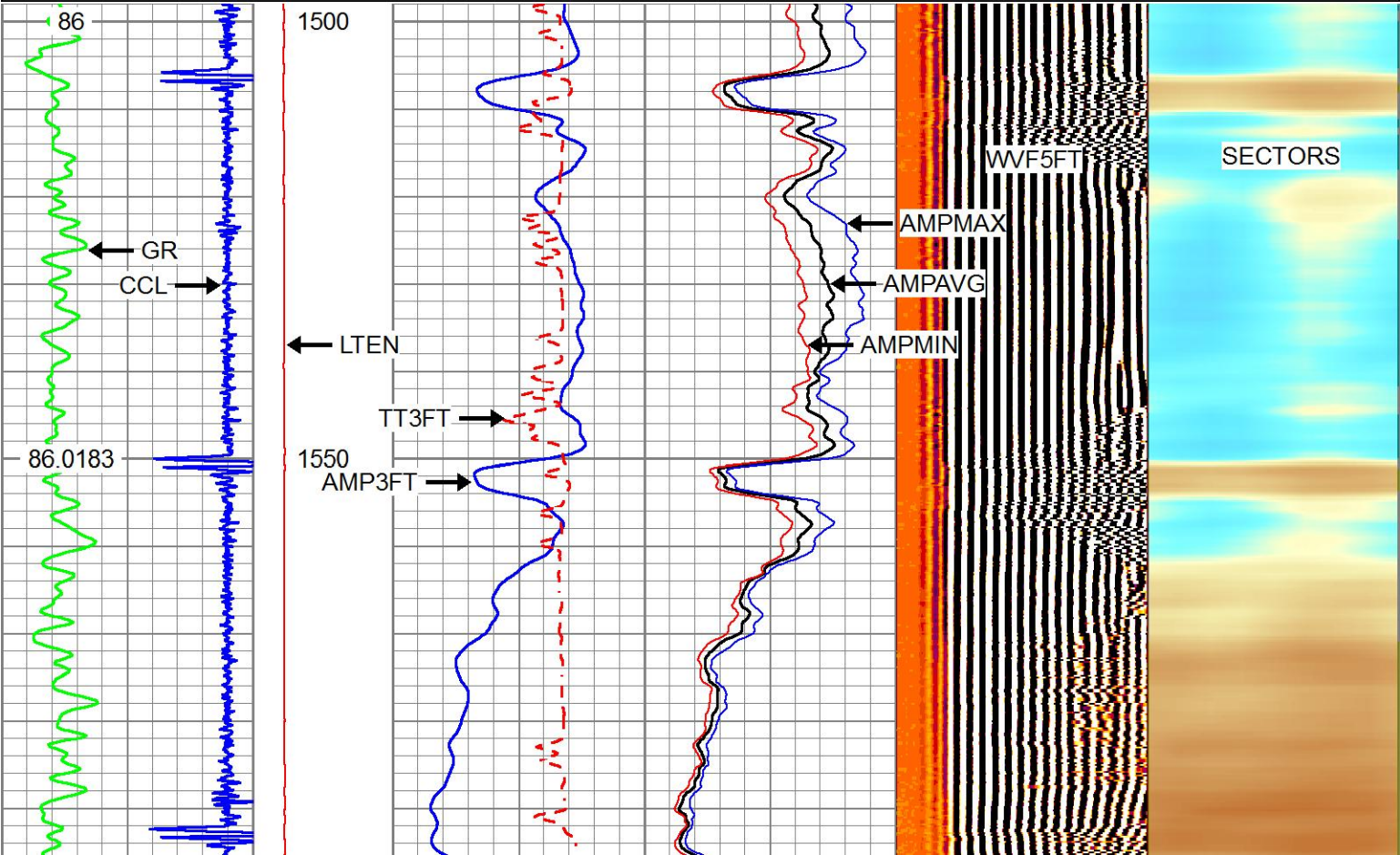
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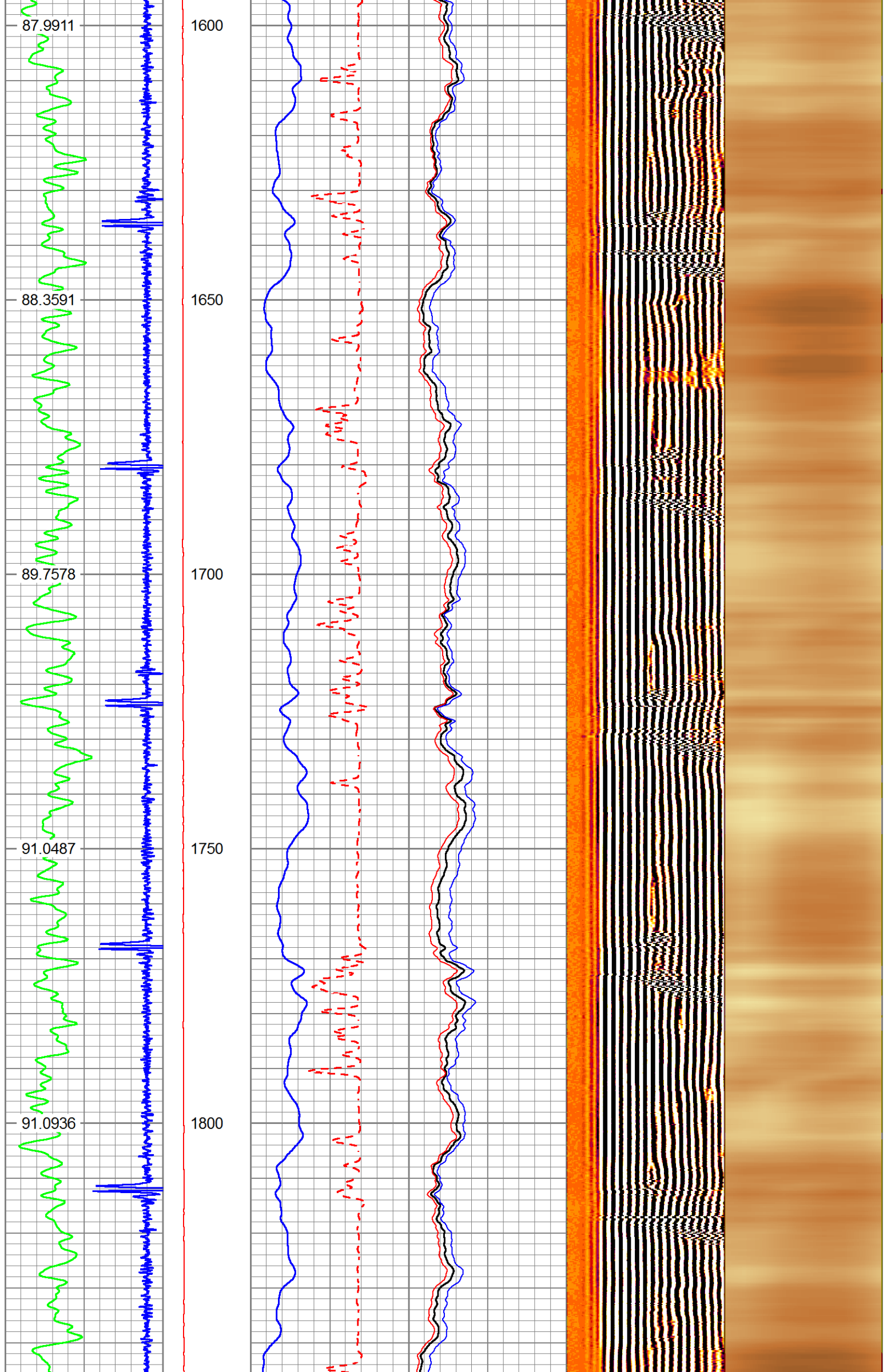
MAIN PASS

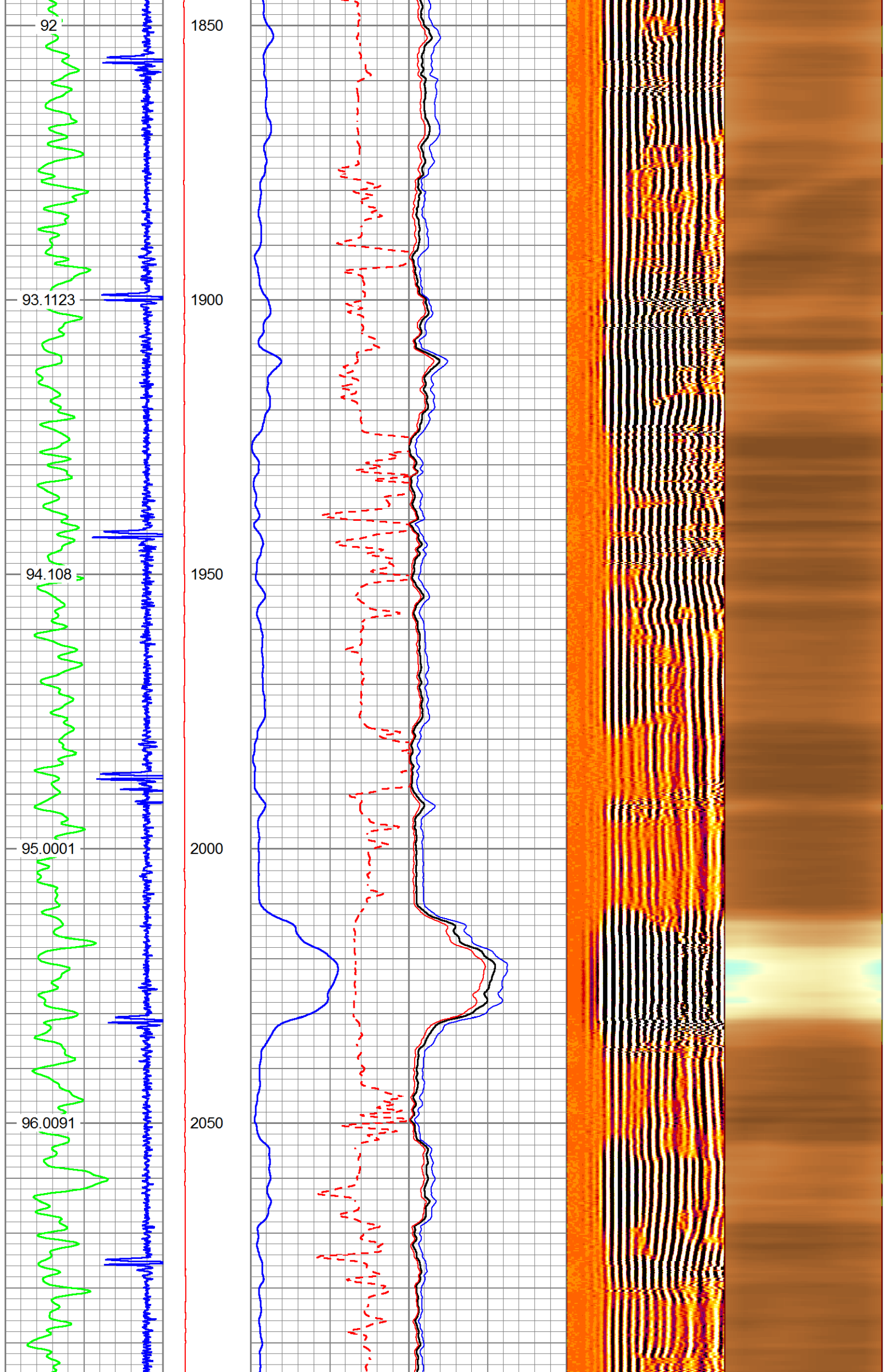
5" = 100'

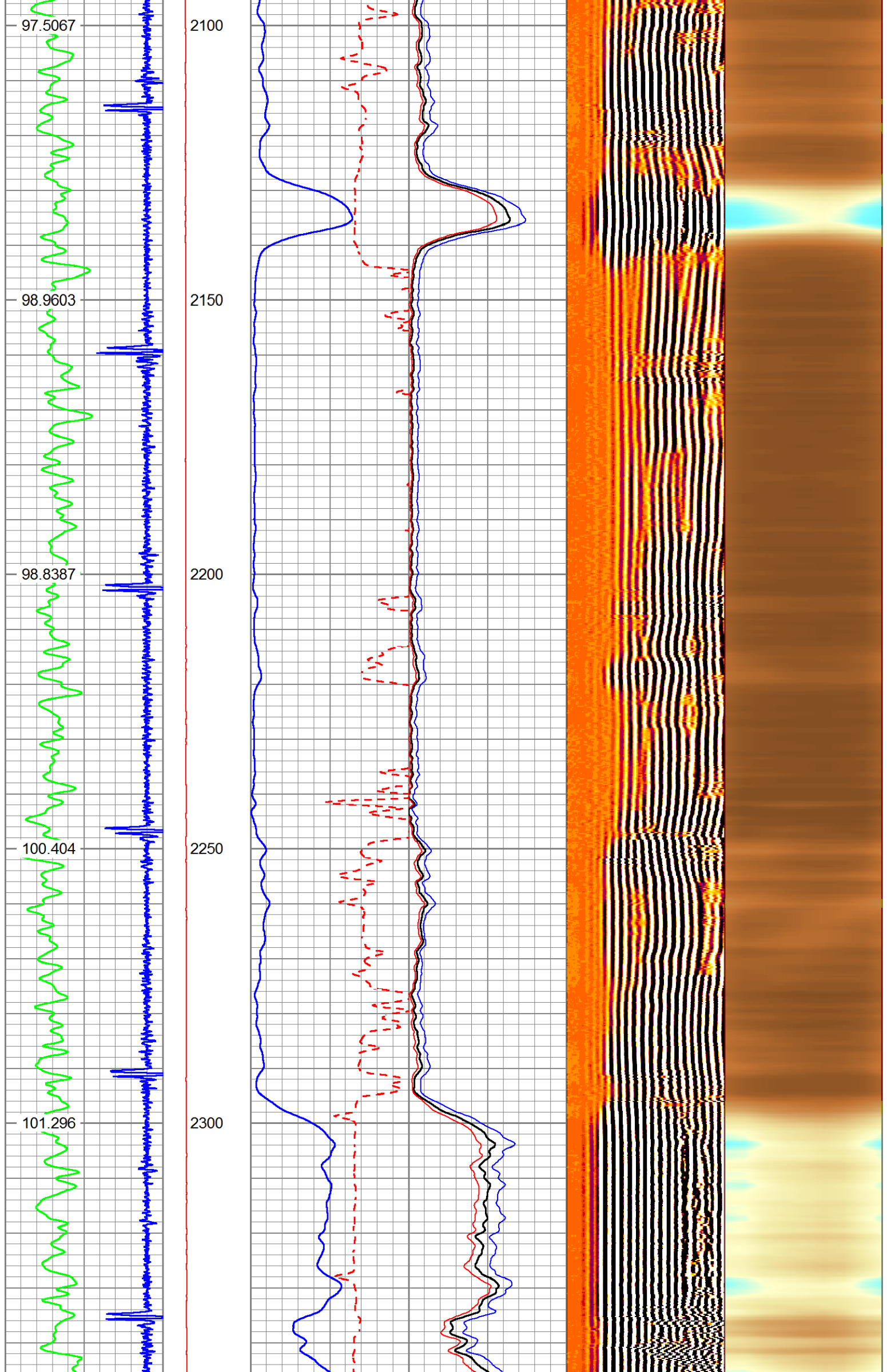
Database File extraction coyote trails 33w_15_5n.db
Dataset Pathname Coyote_Trails/33W-15-5N/run1/MAIN
Presentation Format EXTRAC~1
Dataset Creation Mon Jul 22 22:25:05 2019
Charted by Depth in Feet scaled 1:240

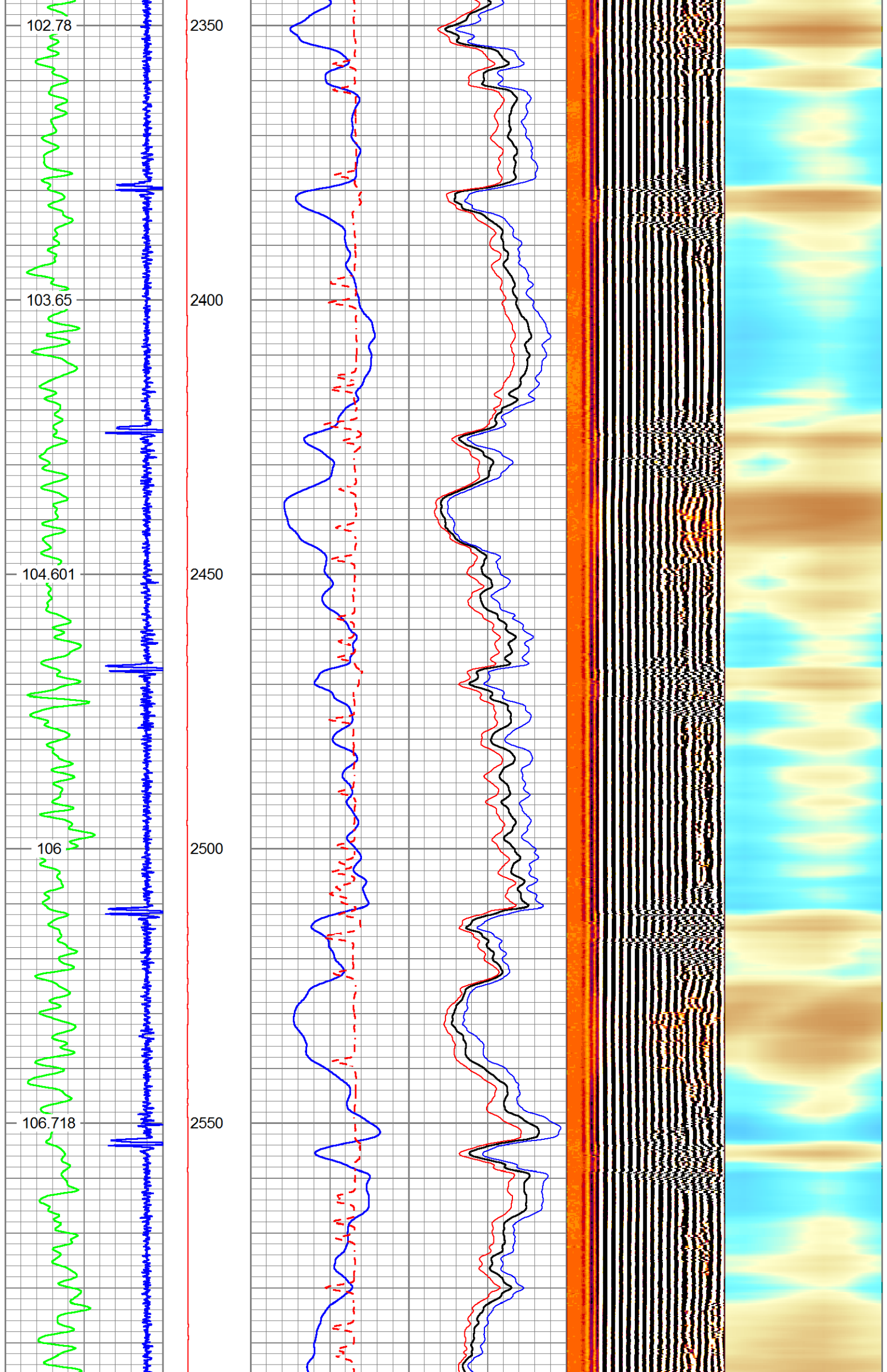
9	CCL	-1	LTEN	0	AMP (mV)	100	0	AMPAVG	100	200	VDL (usec)	1200	1	RADIAL MAP	8
0	GR (GAPI)	100	0	(lb/2000)	Travel Time		0	AMPMAX	100						
	TEMP				(usec)	200	300	0	AMPMIN	100					
	(degF)														

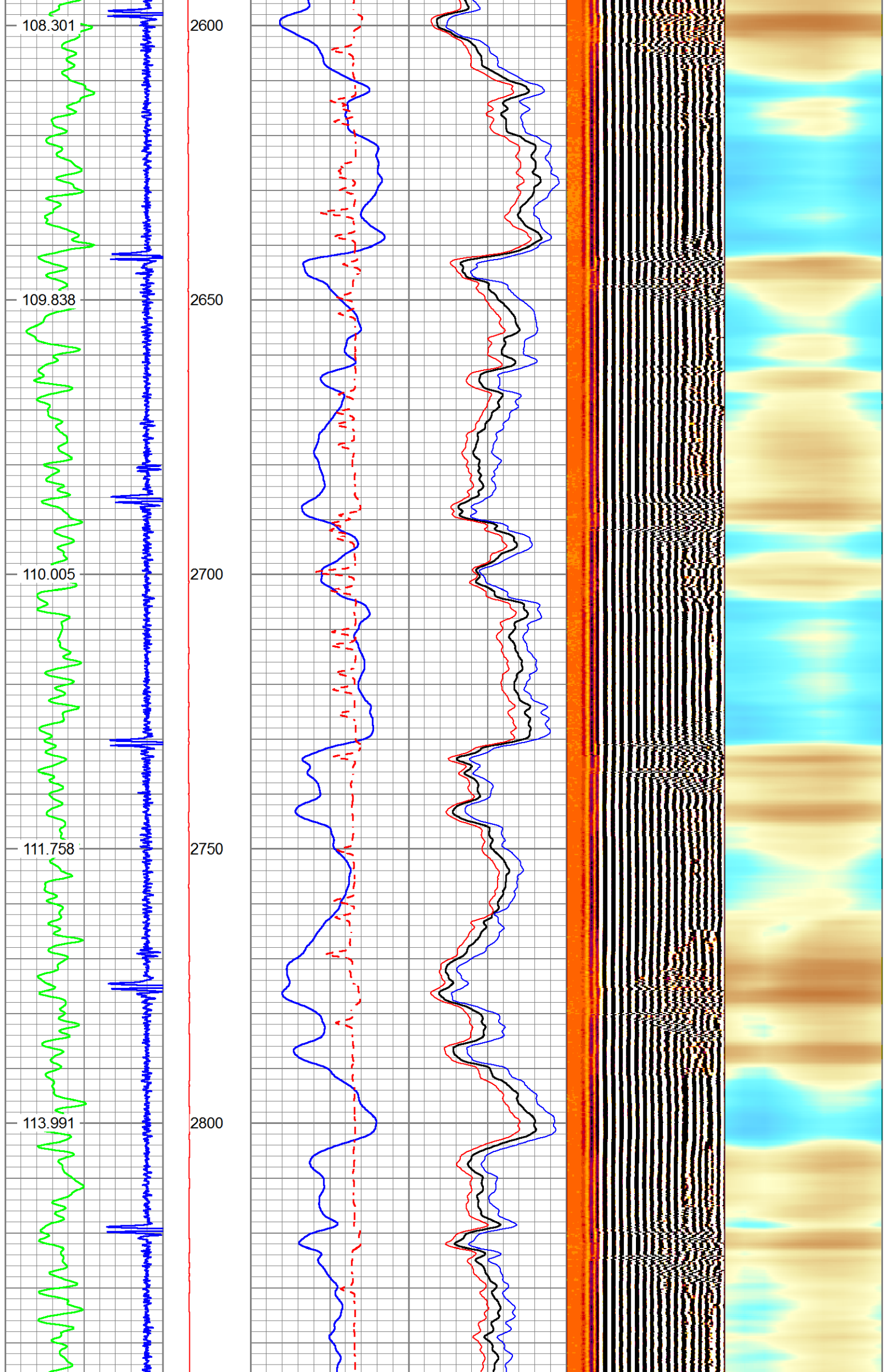


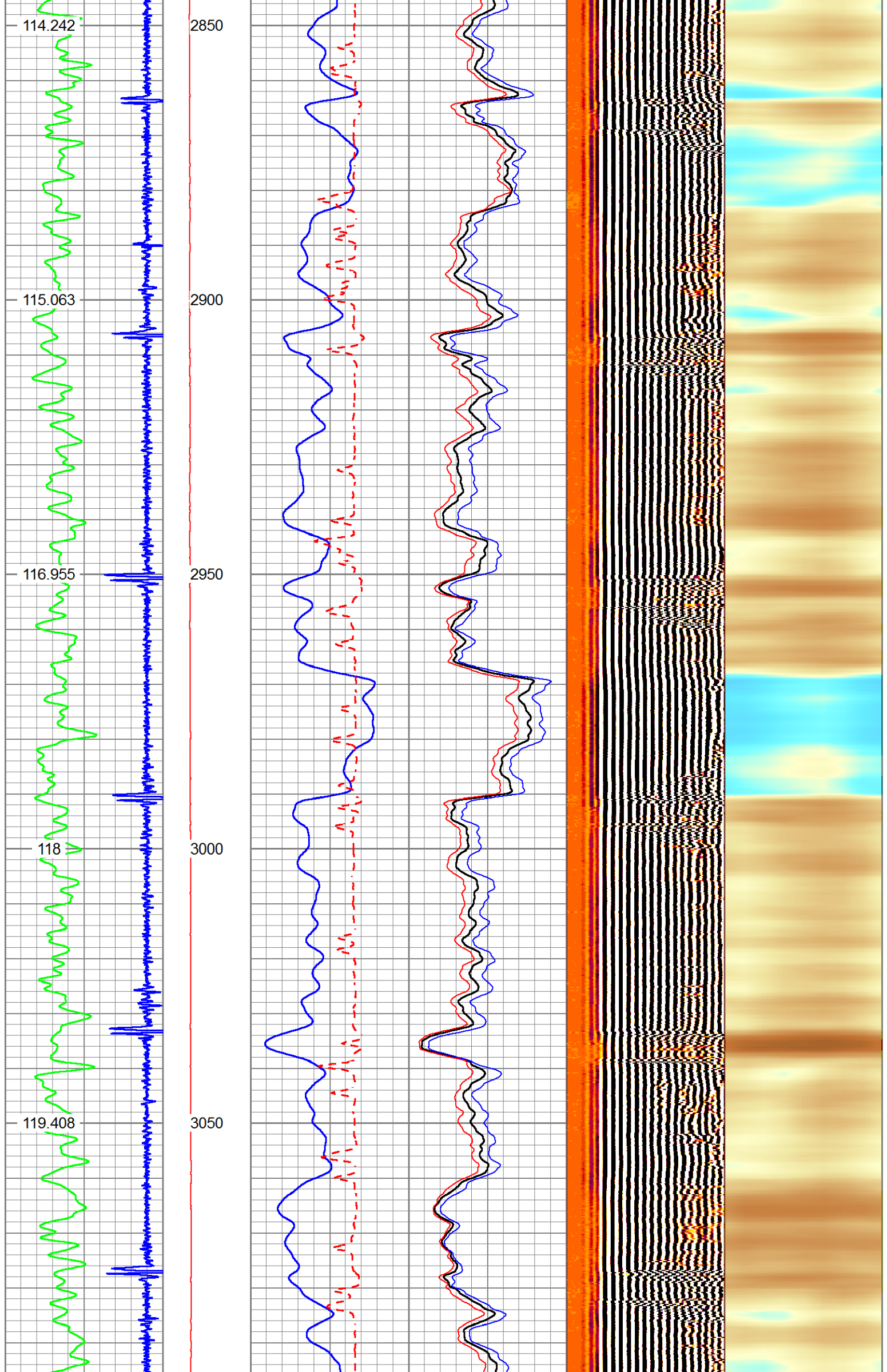


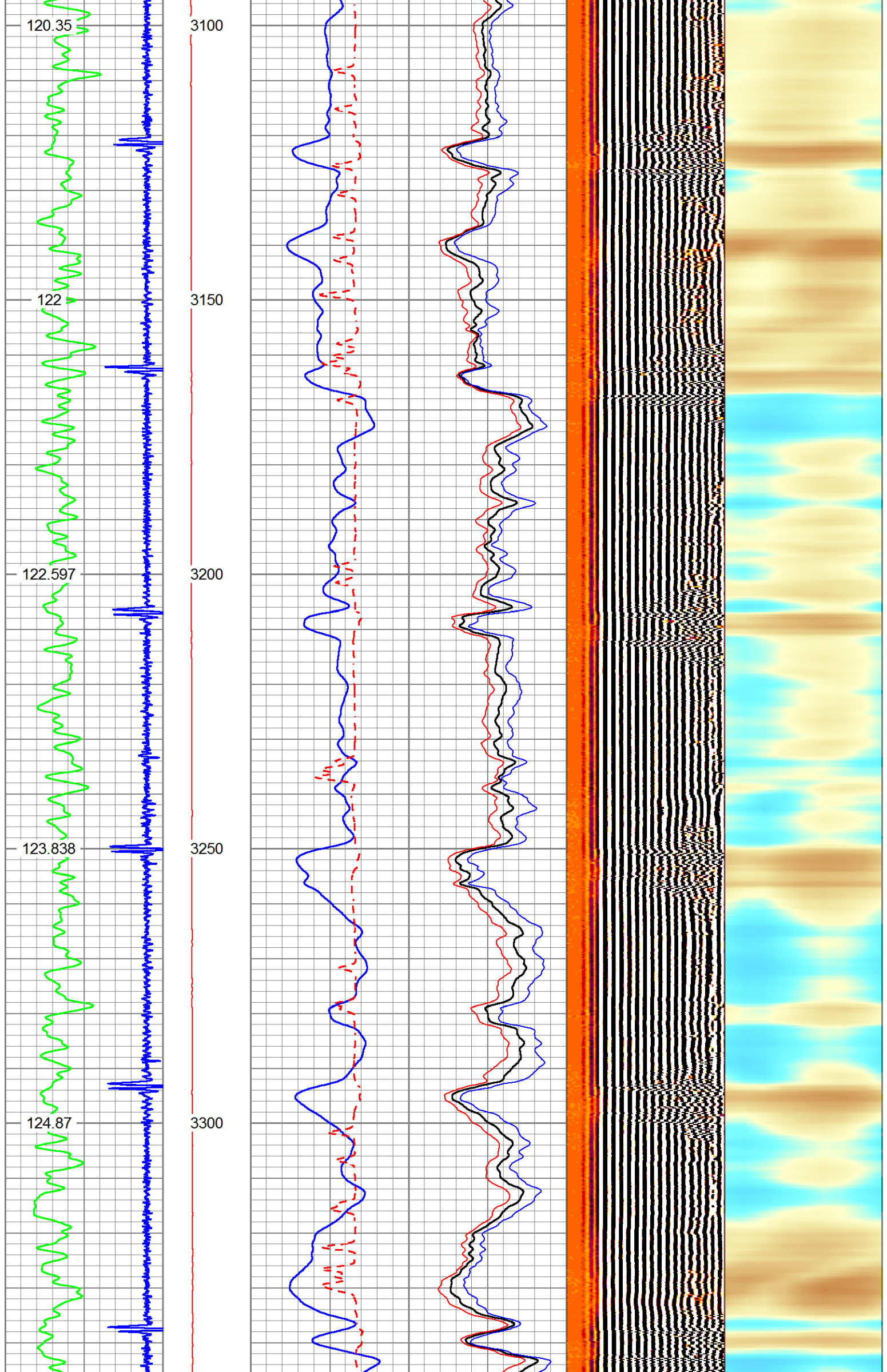


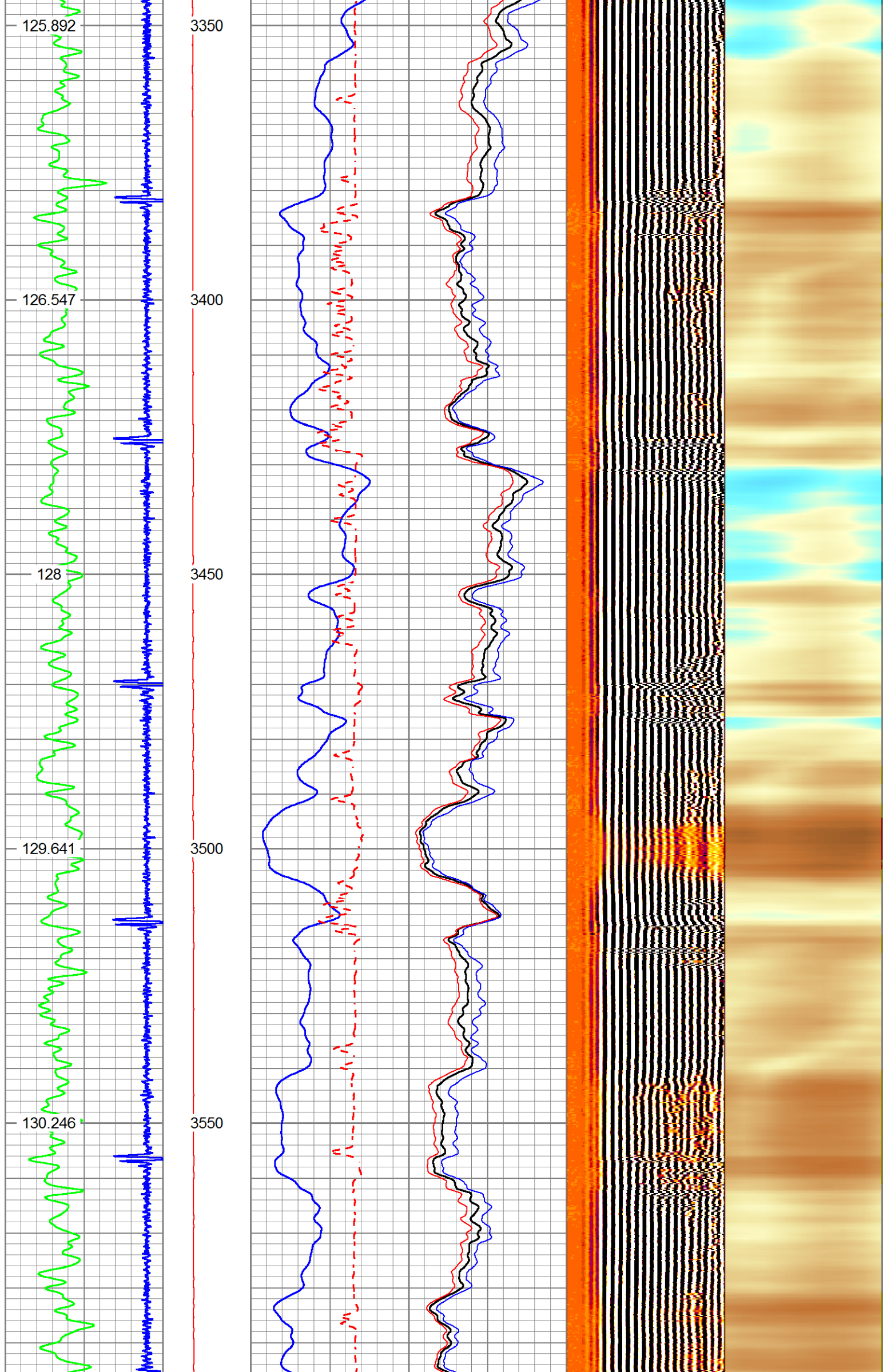


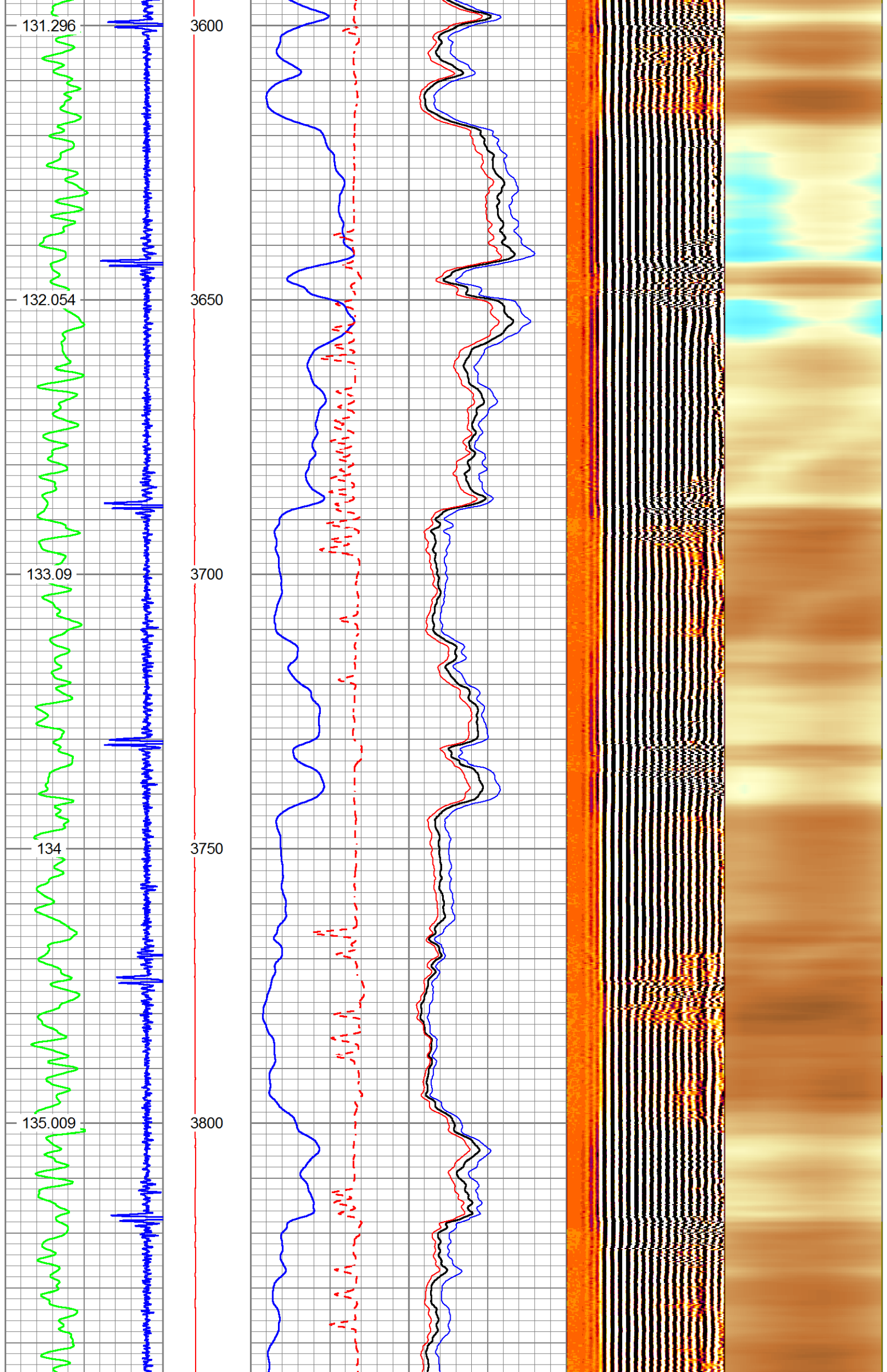


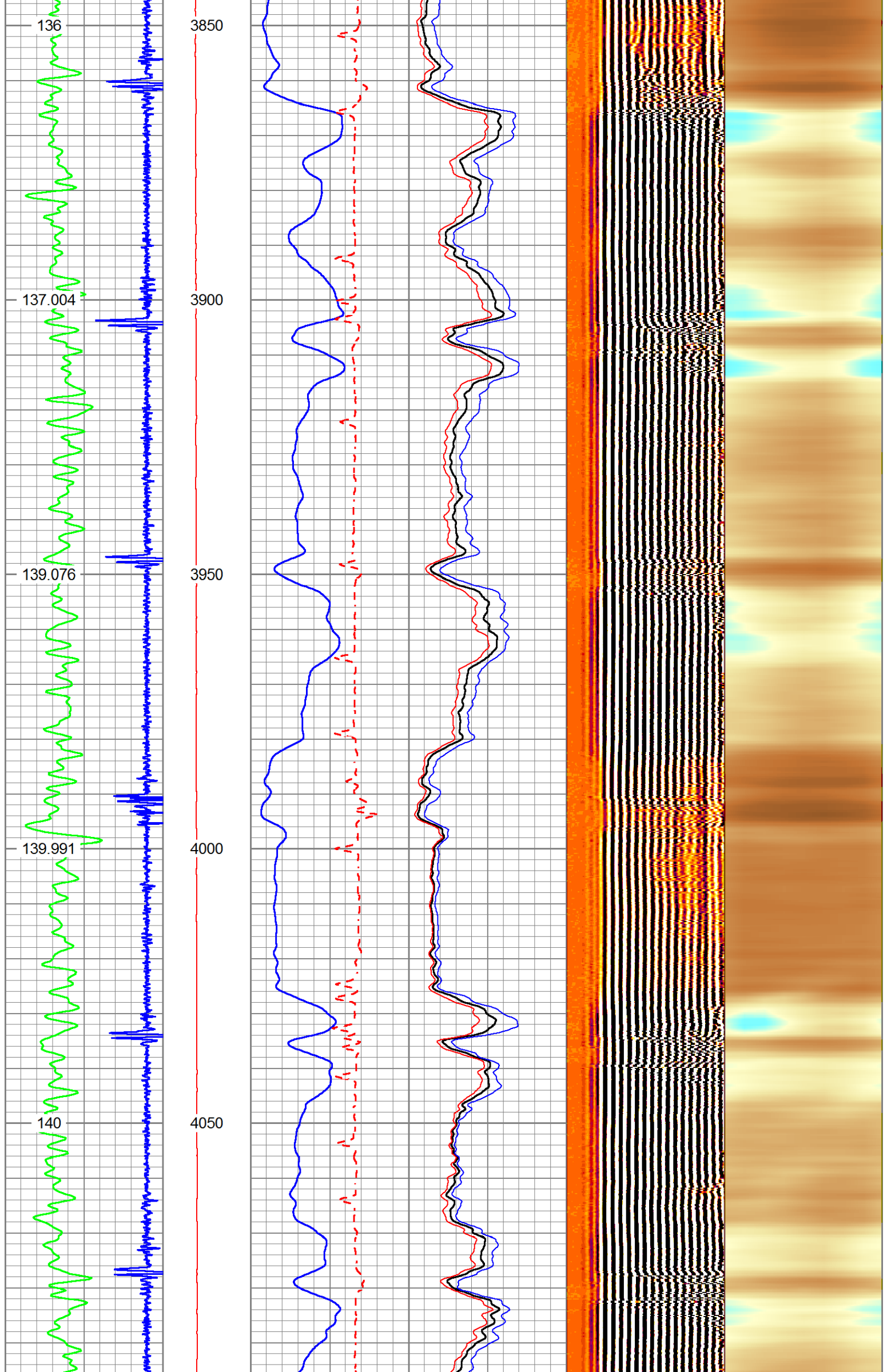


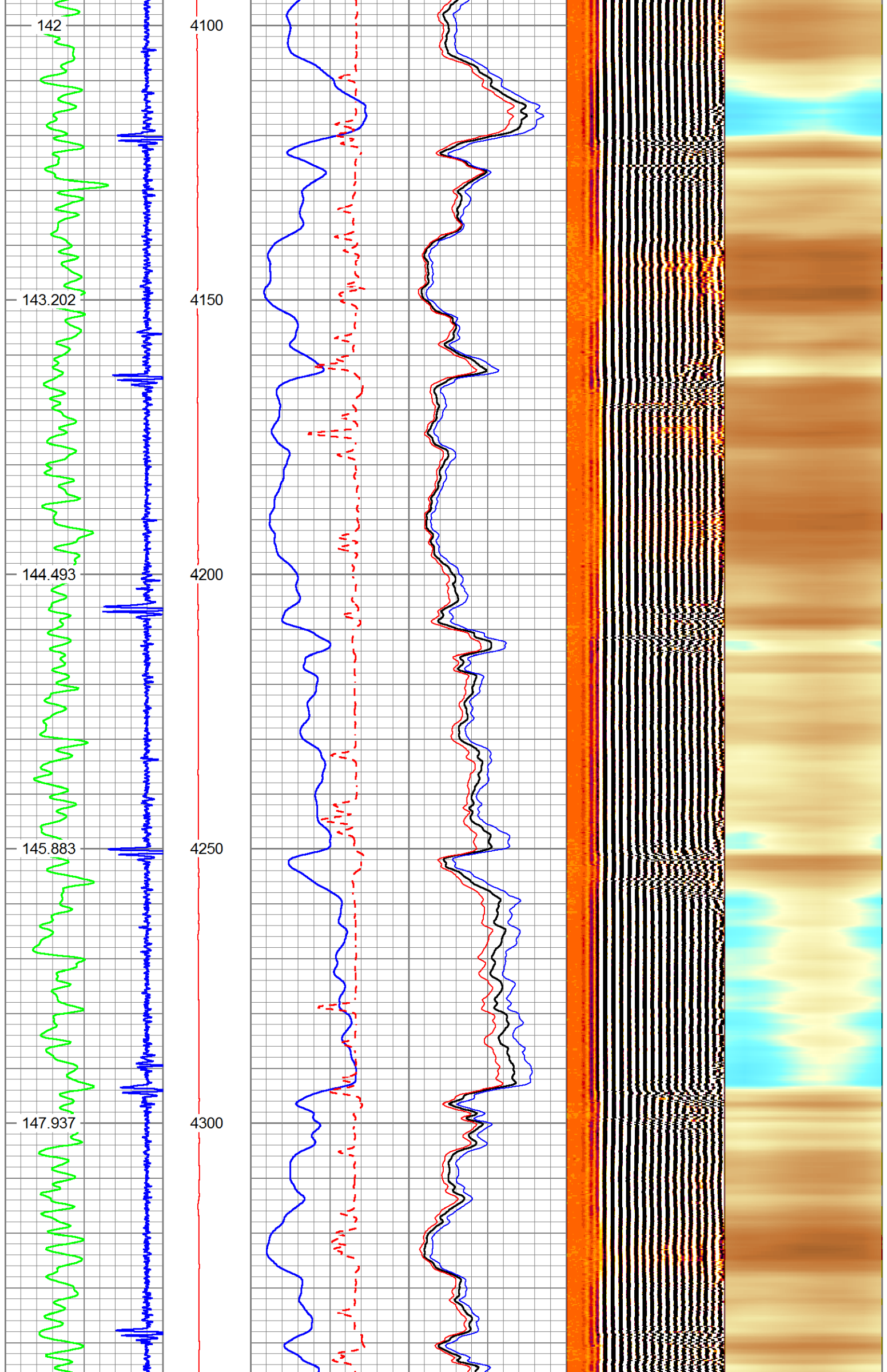


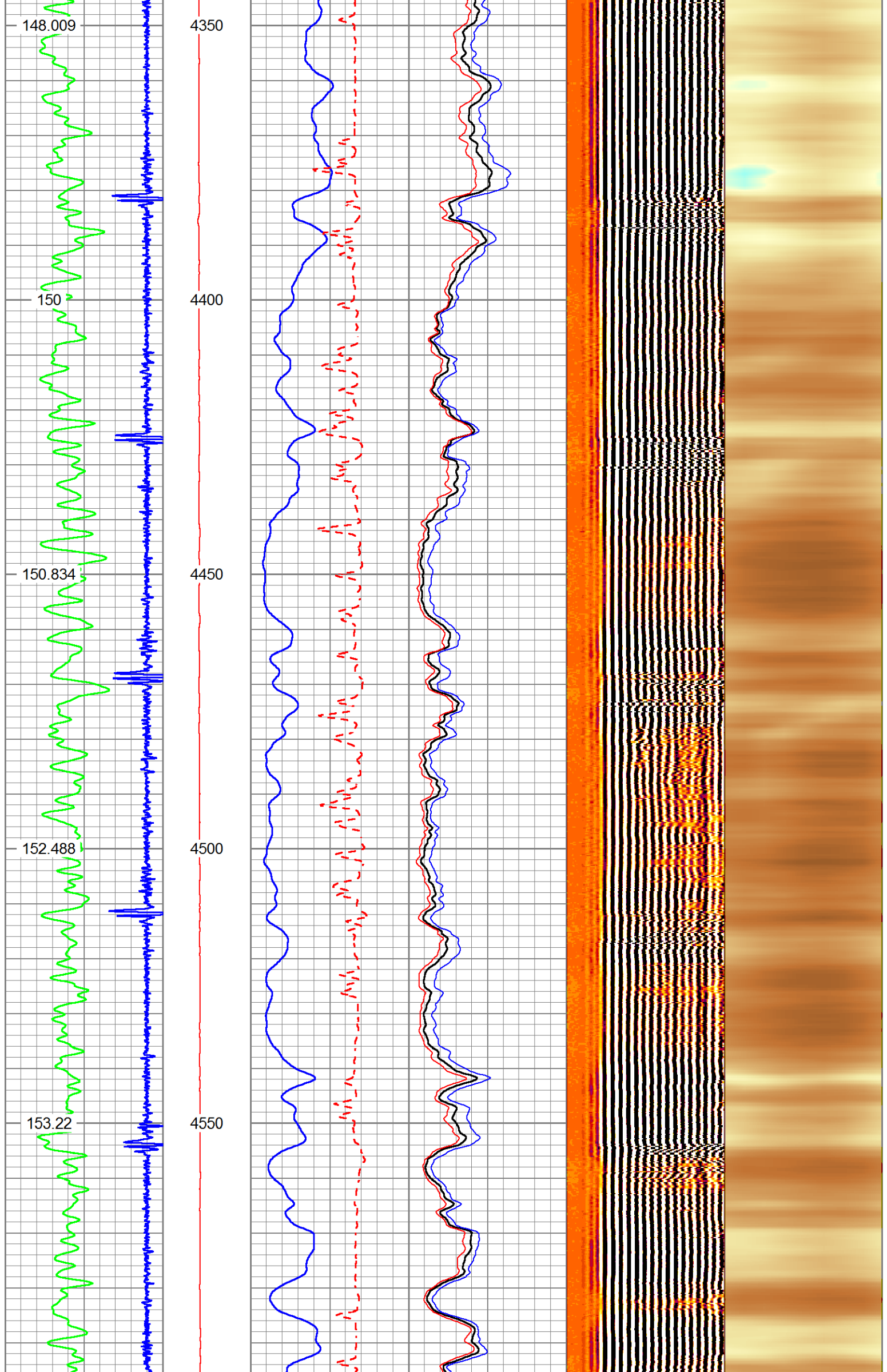


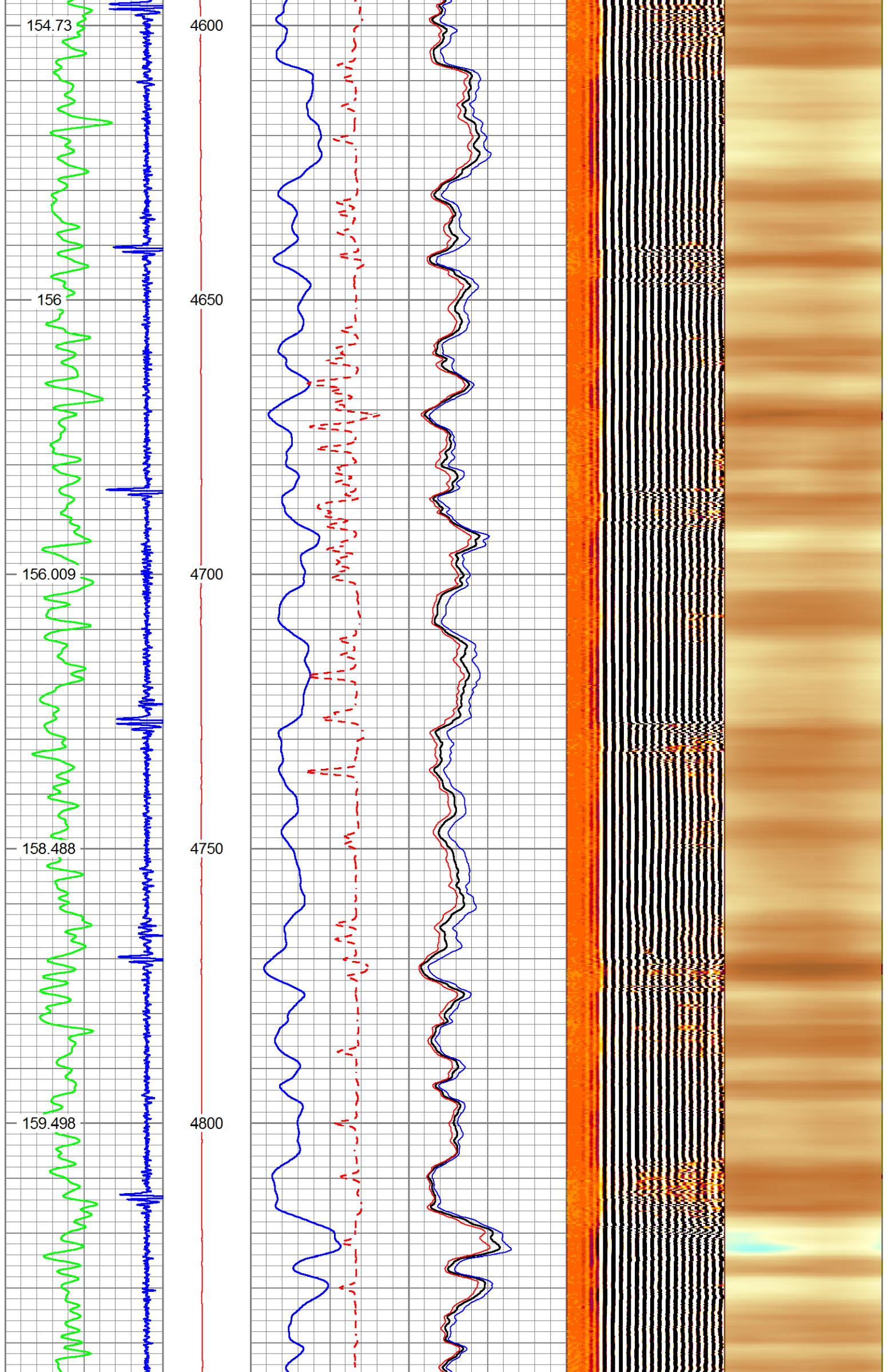


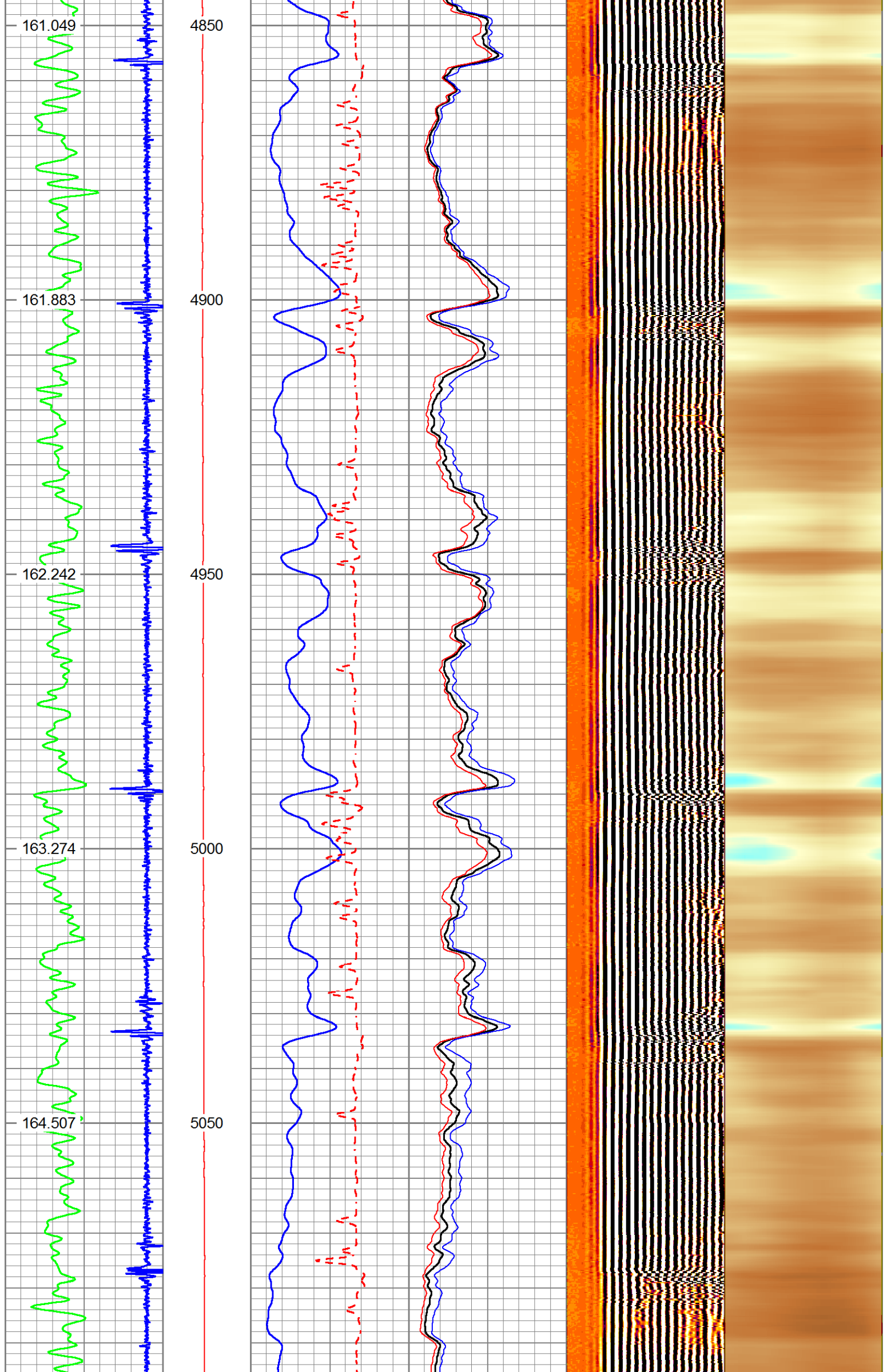


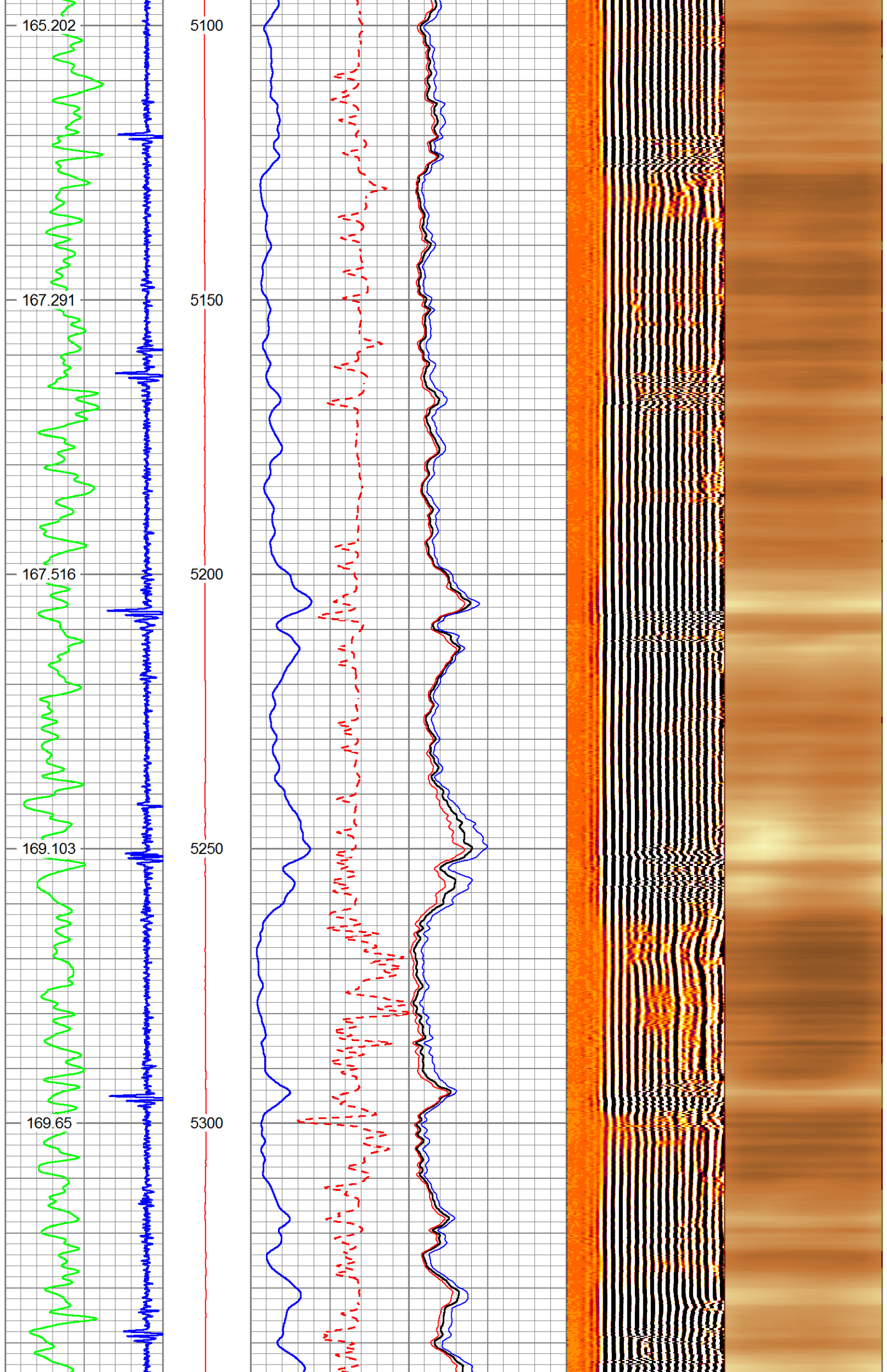


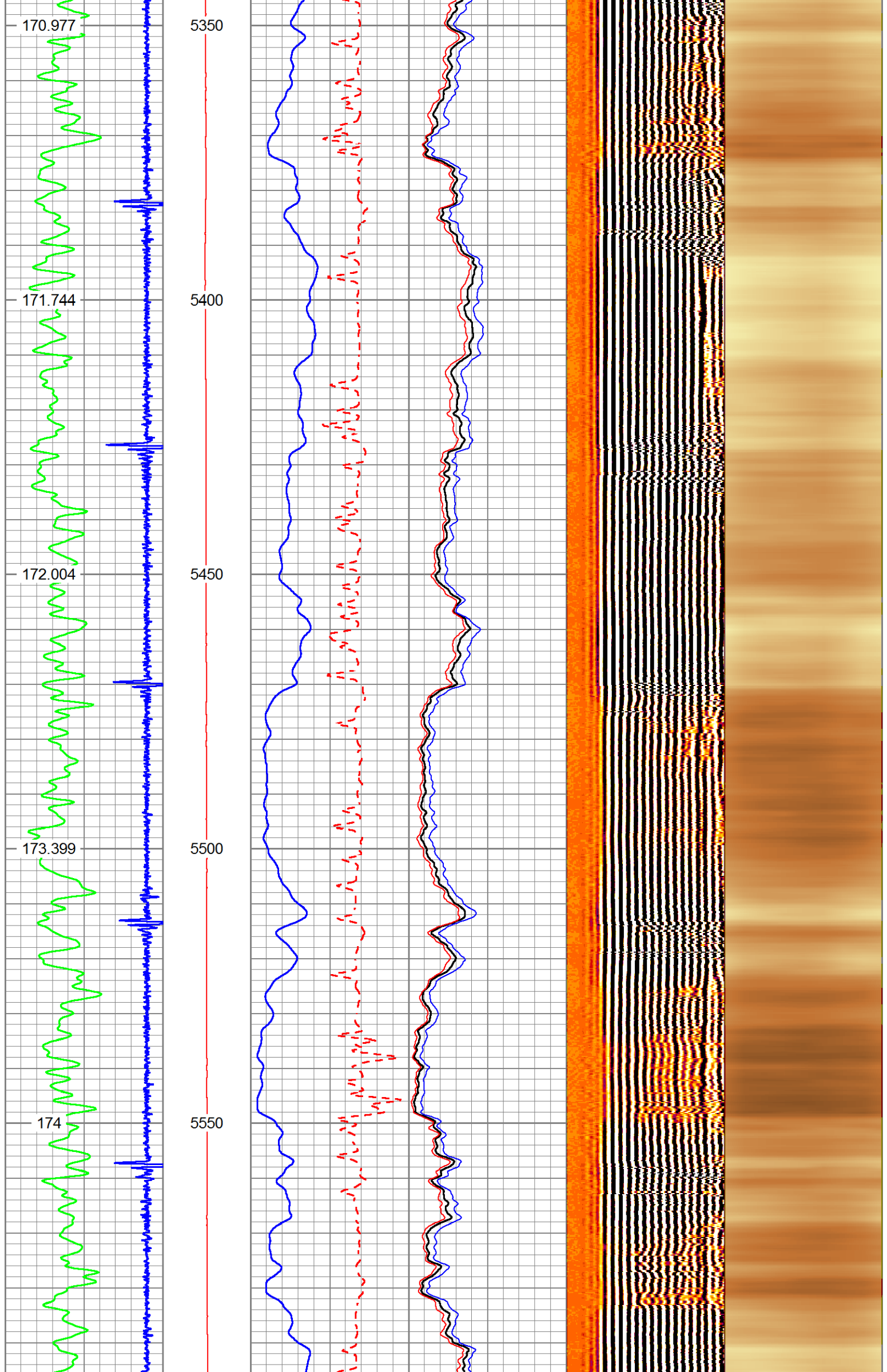


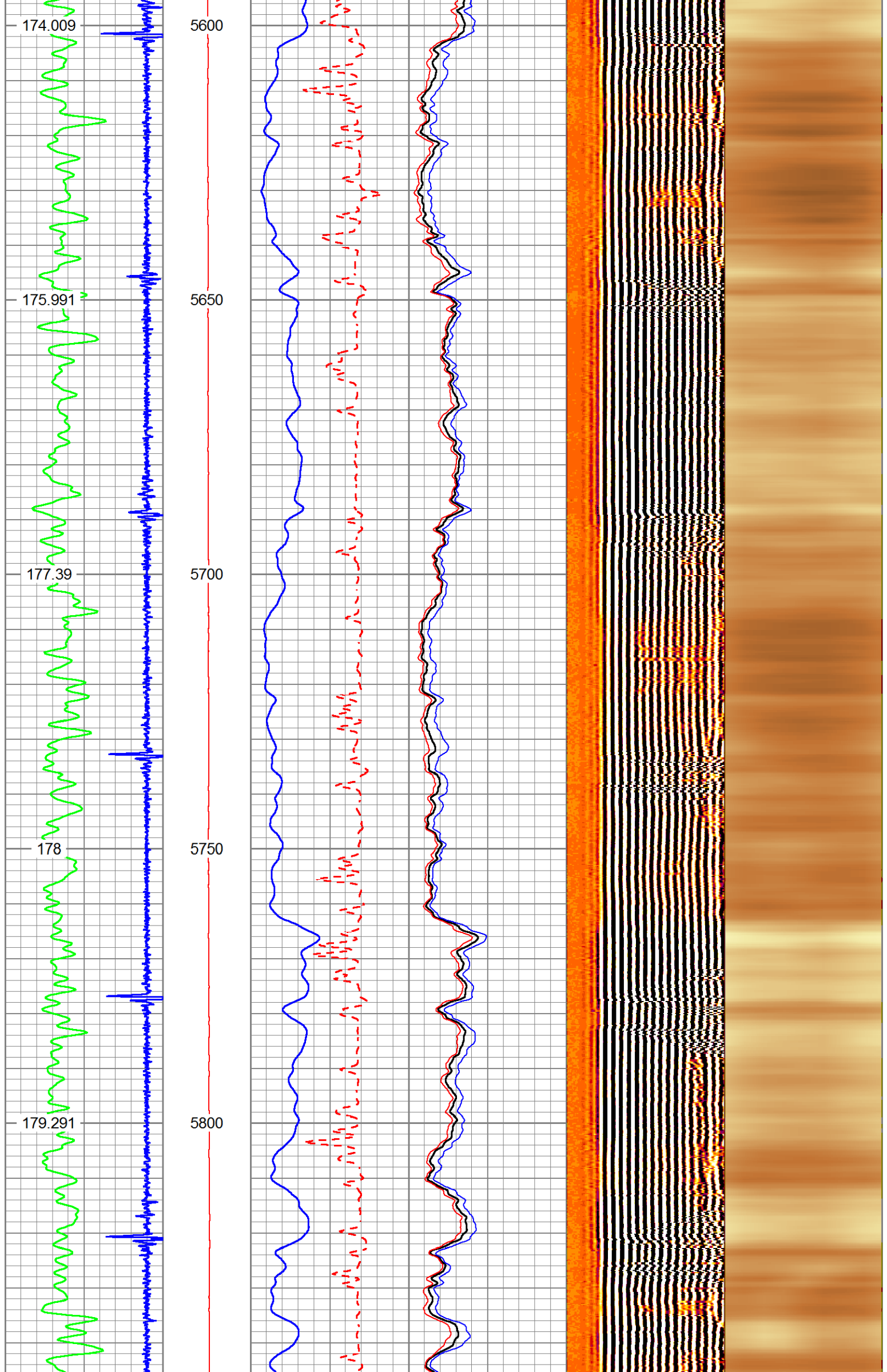


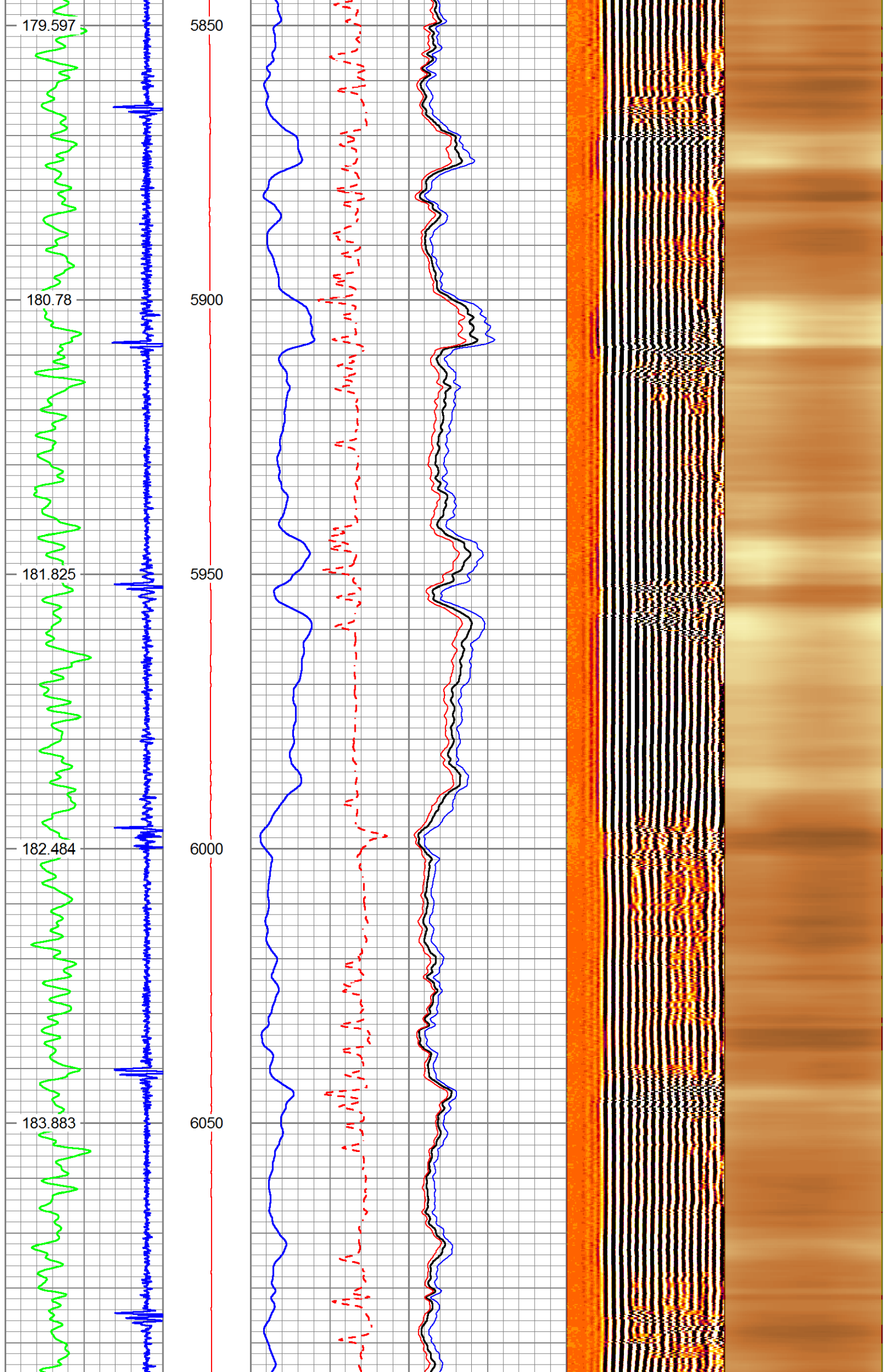


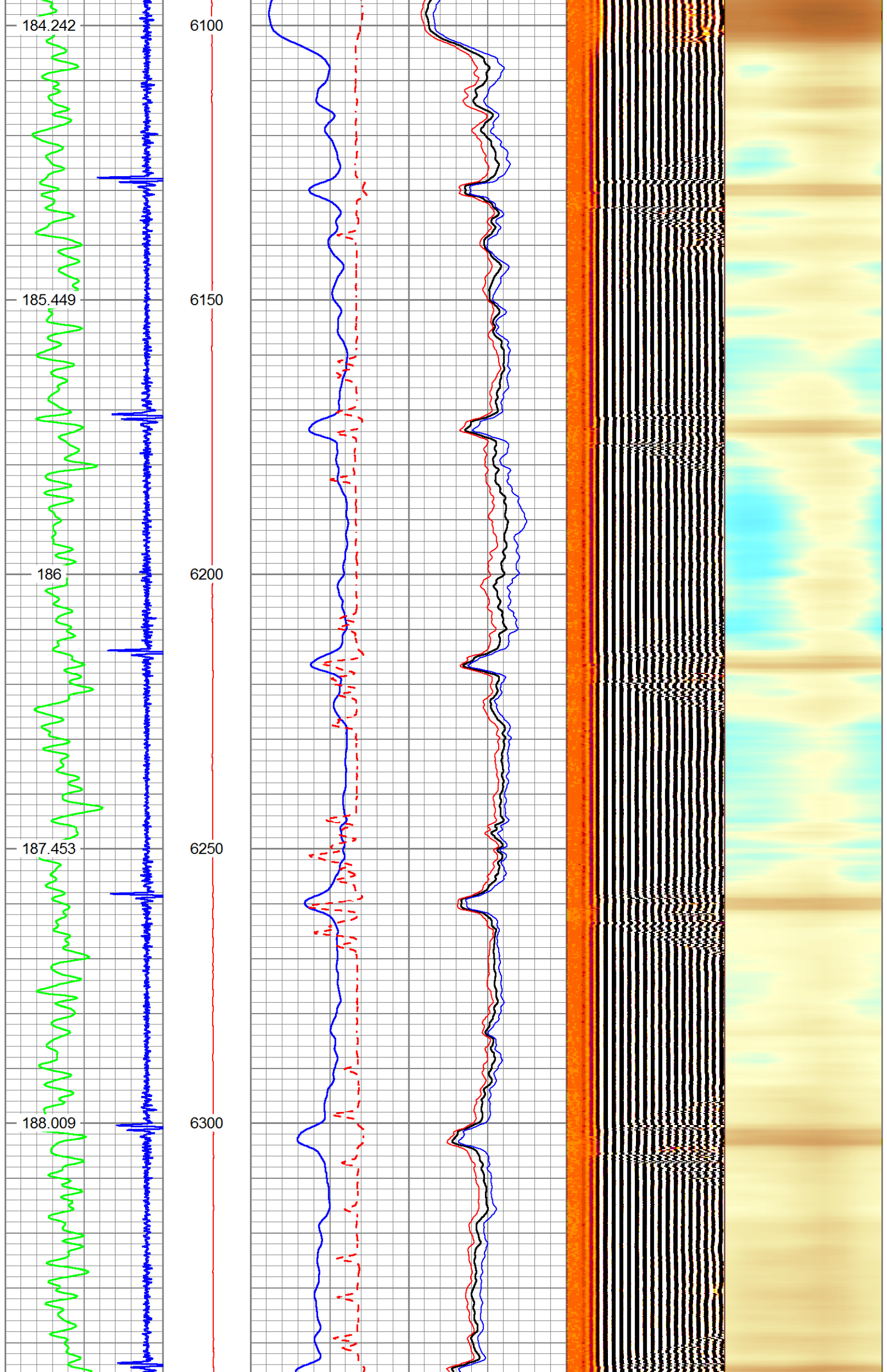


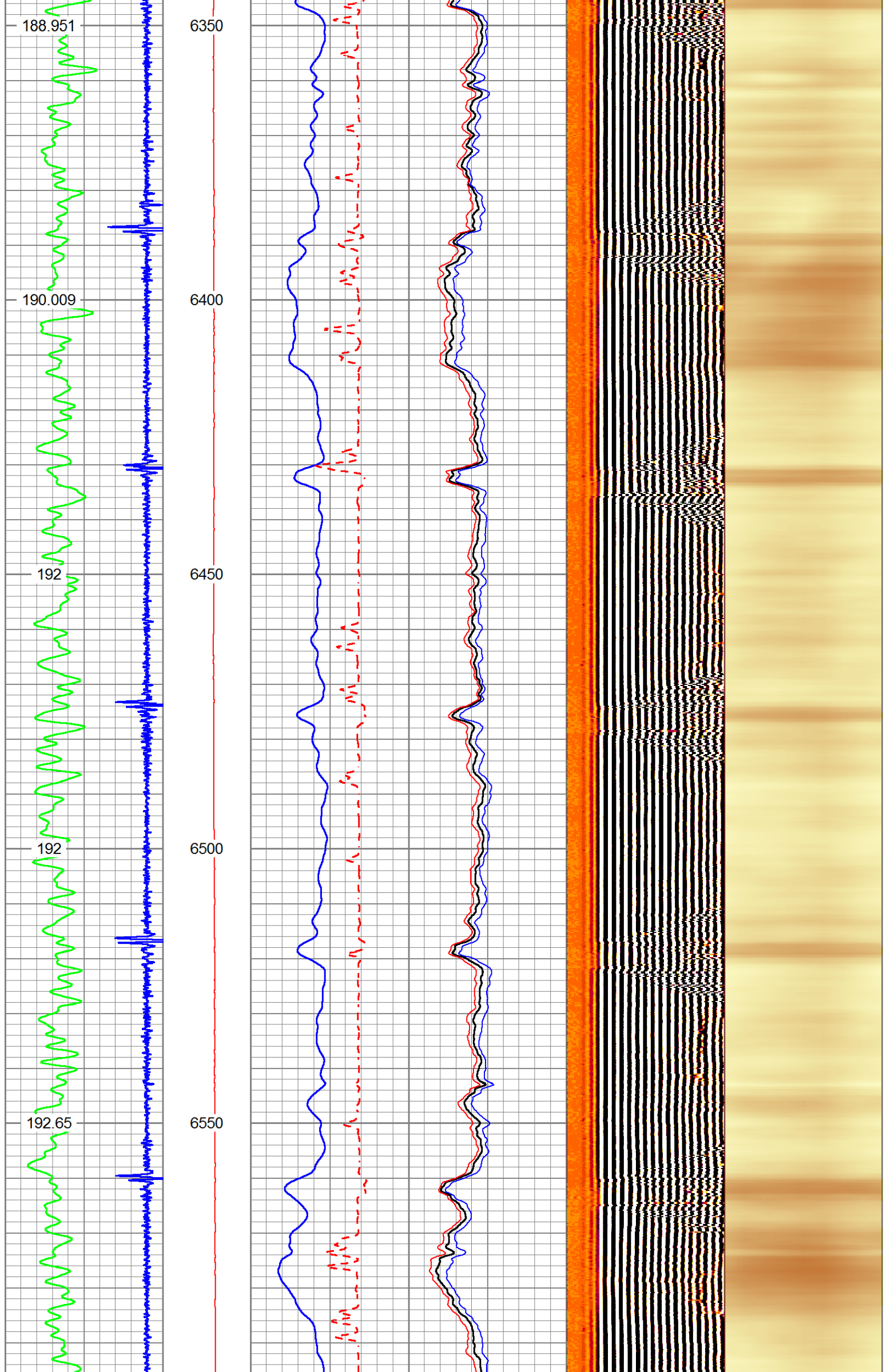


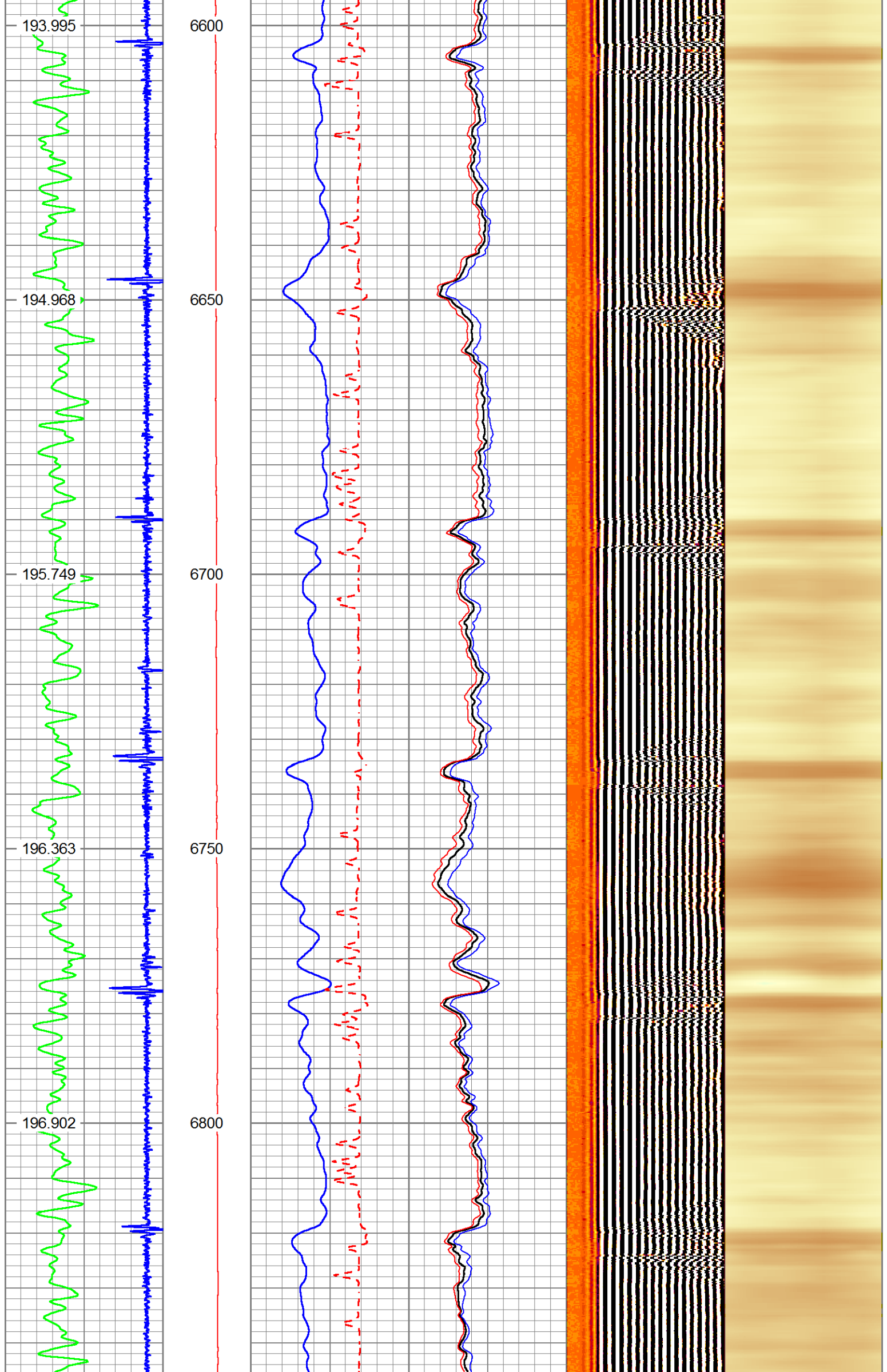


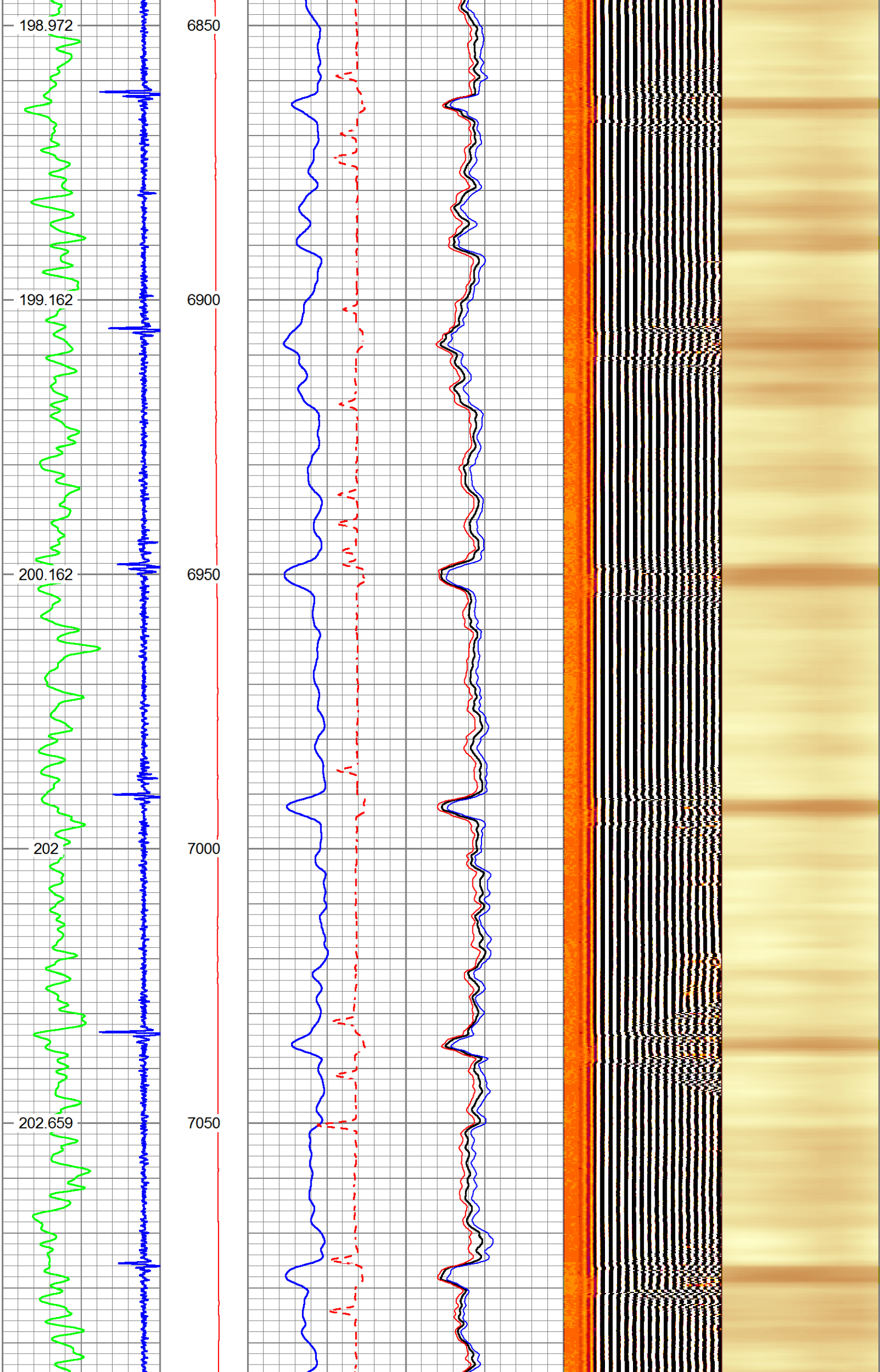


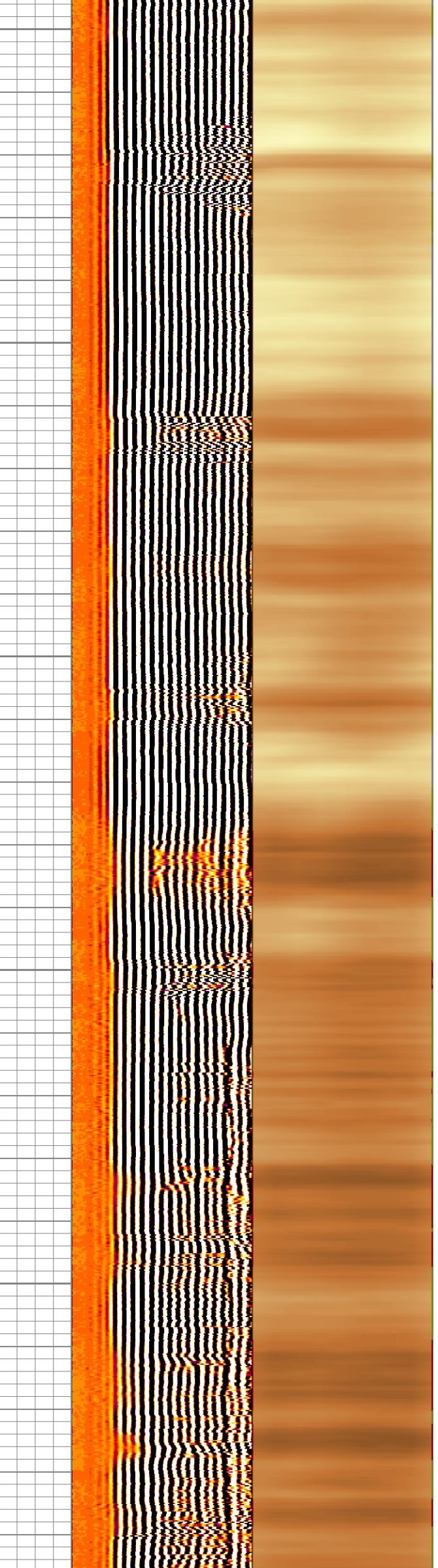
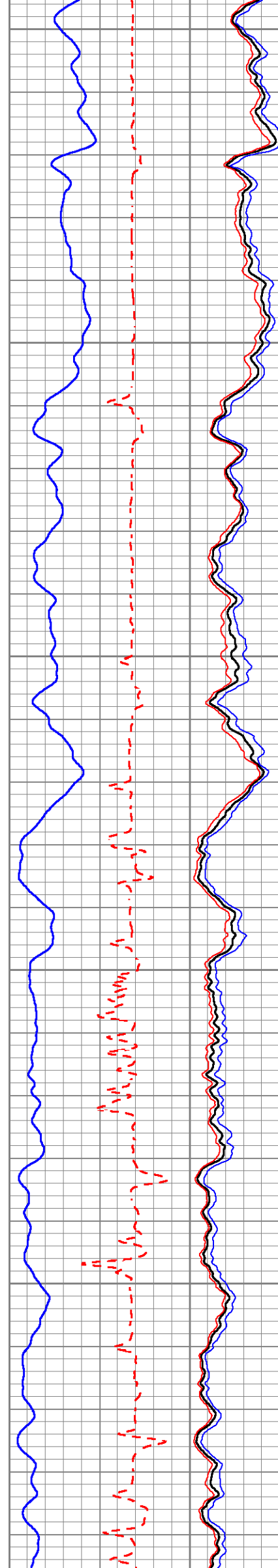
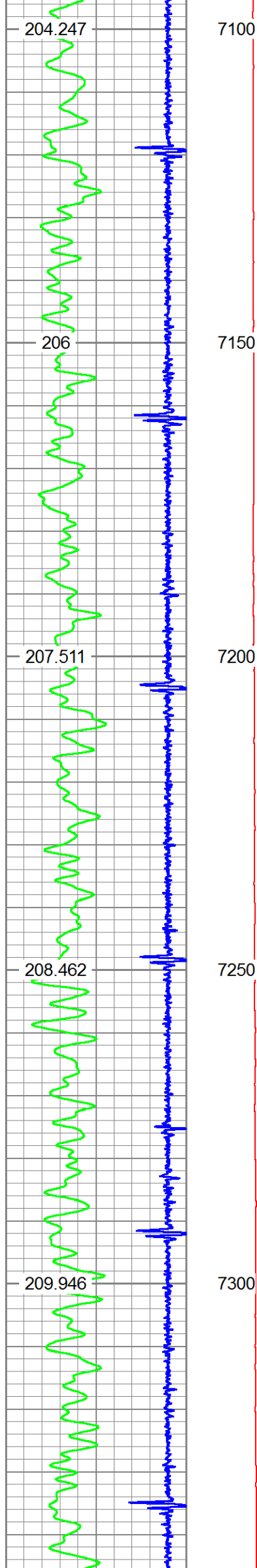


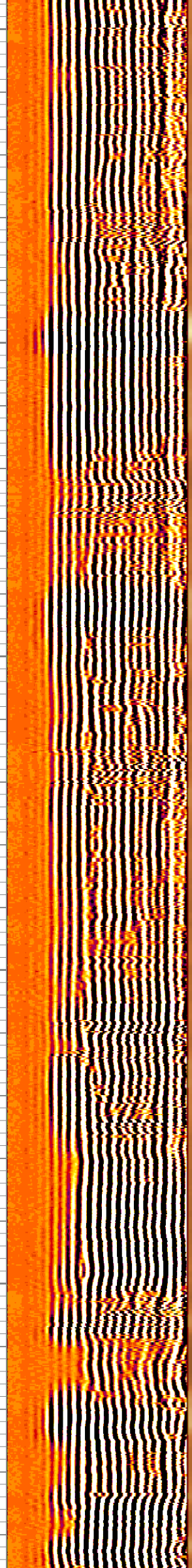
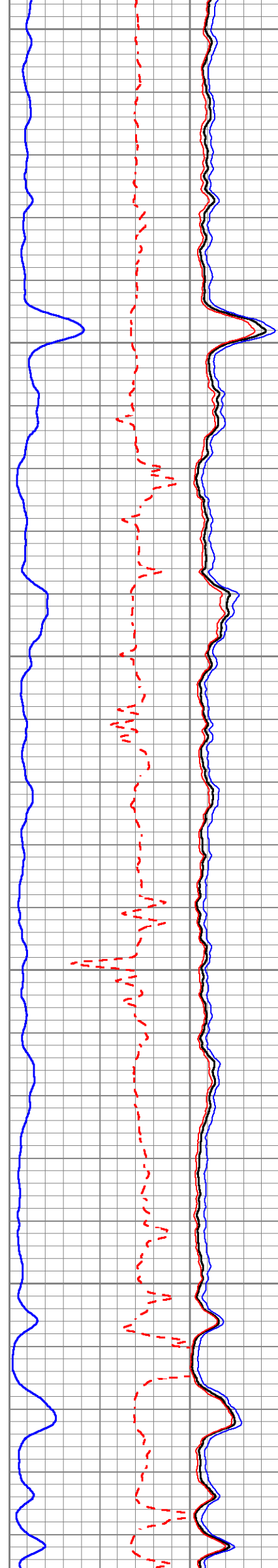
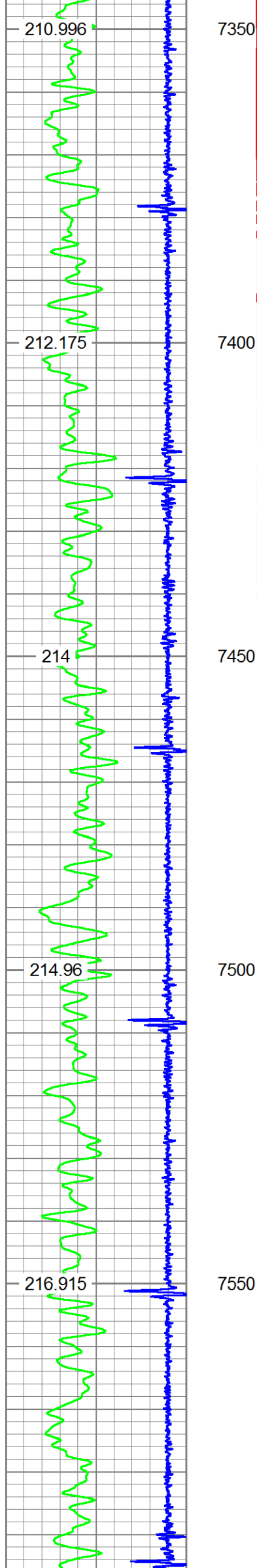


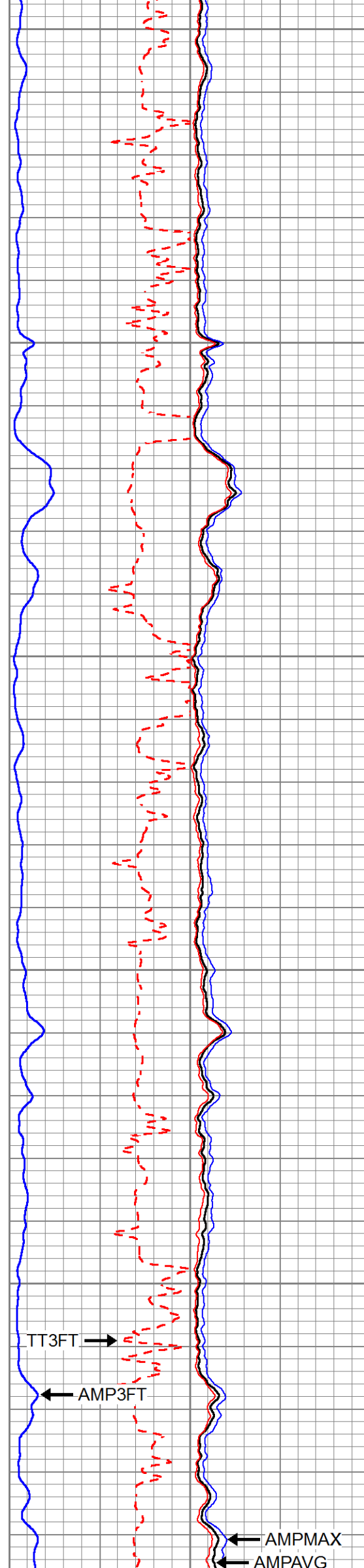
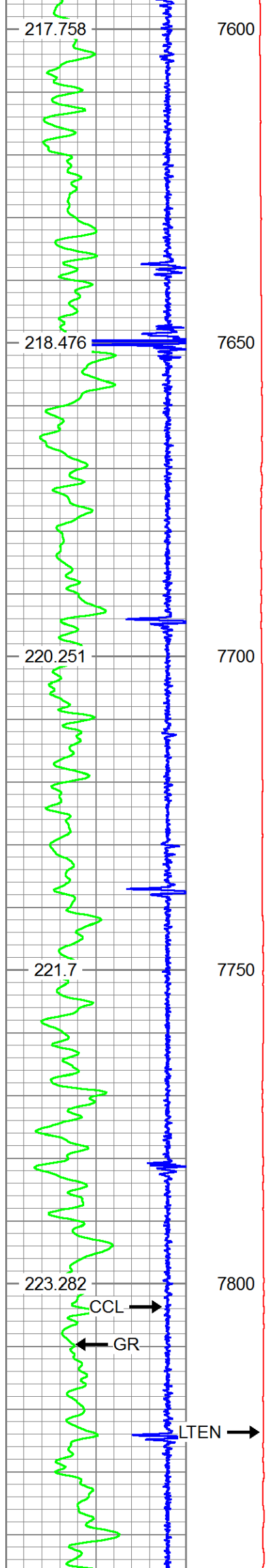


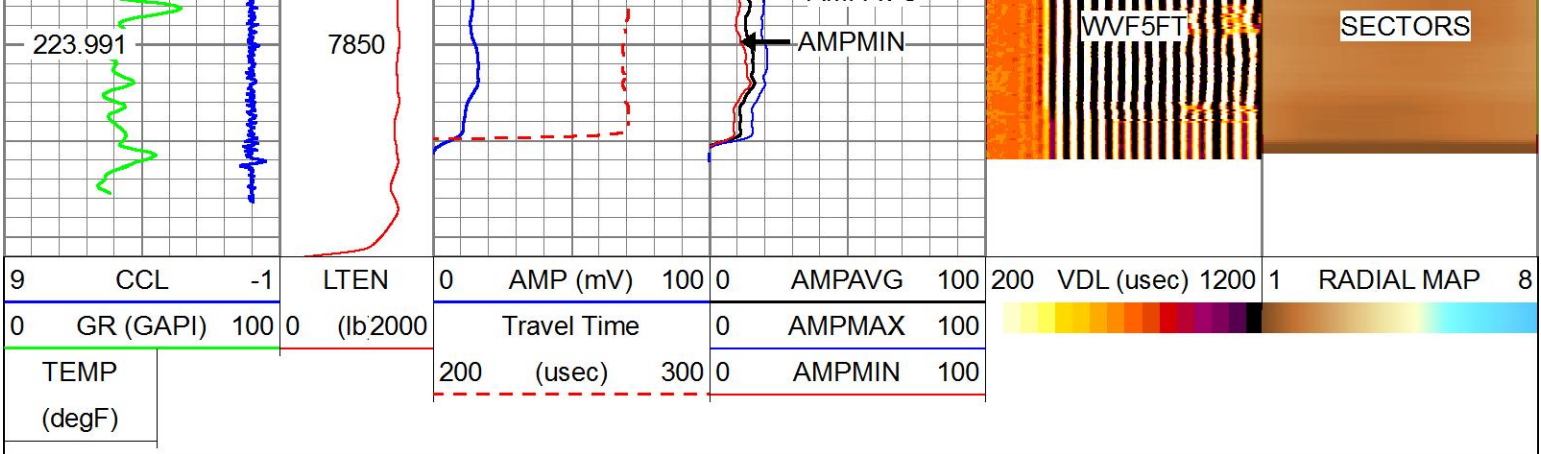








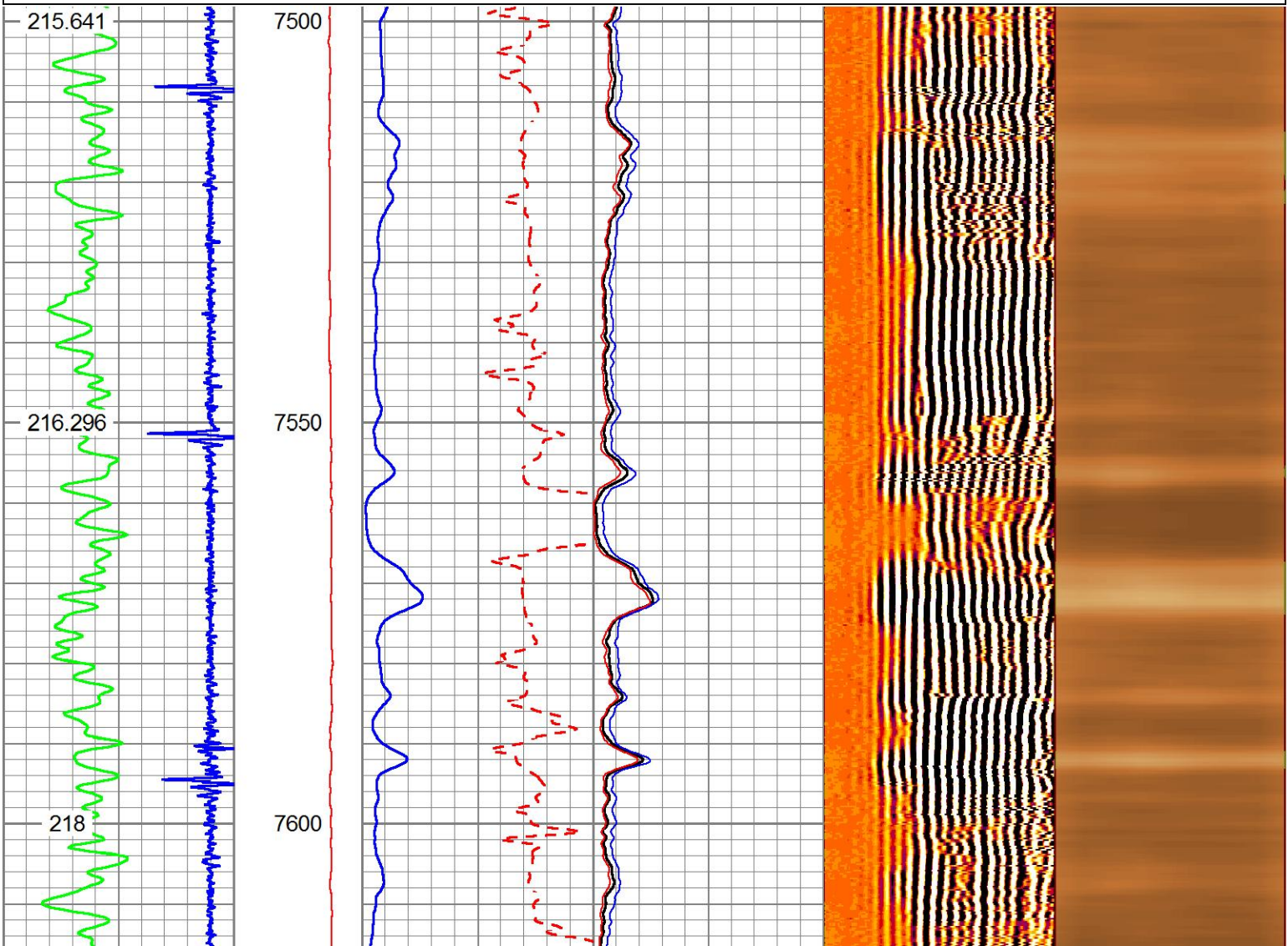
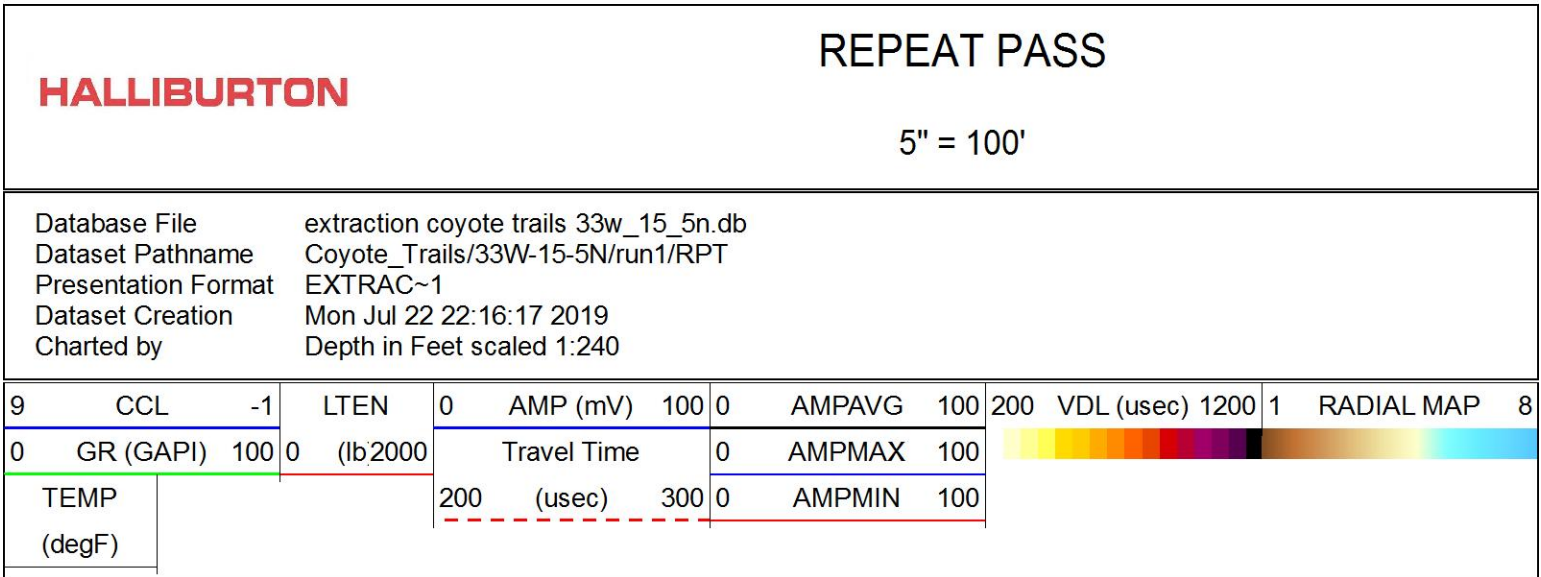


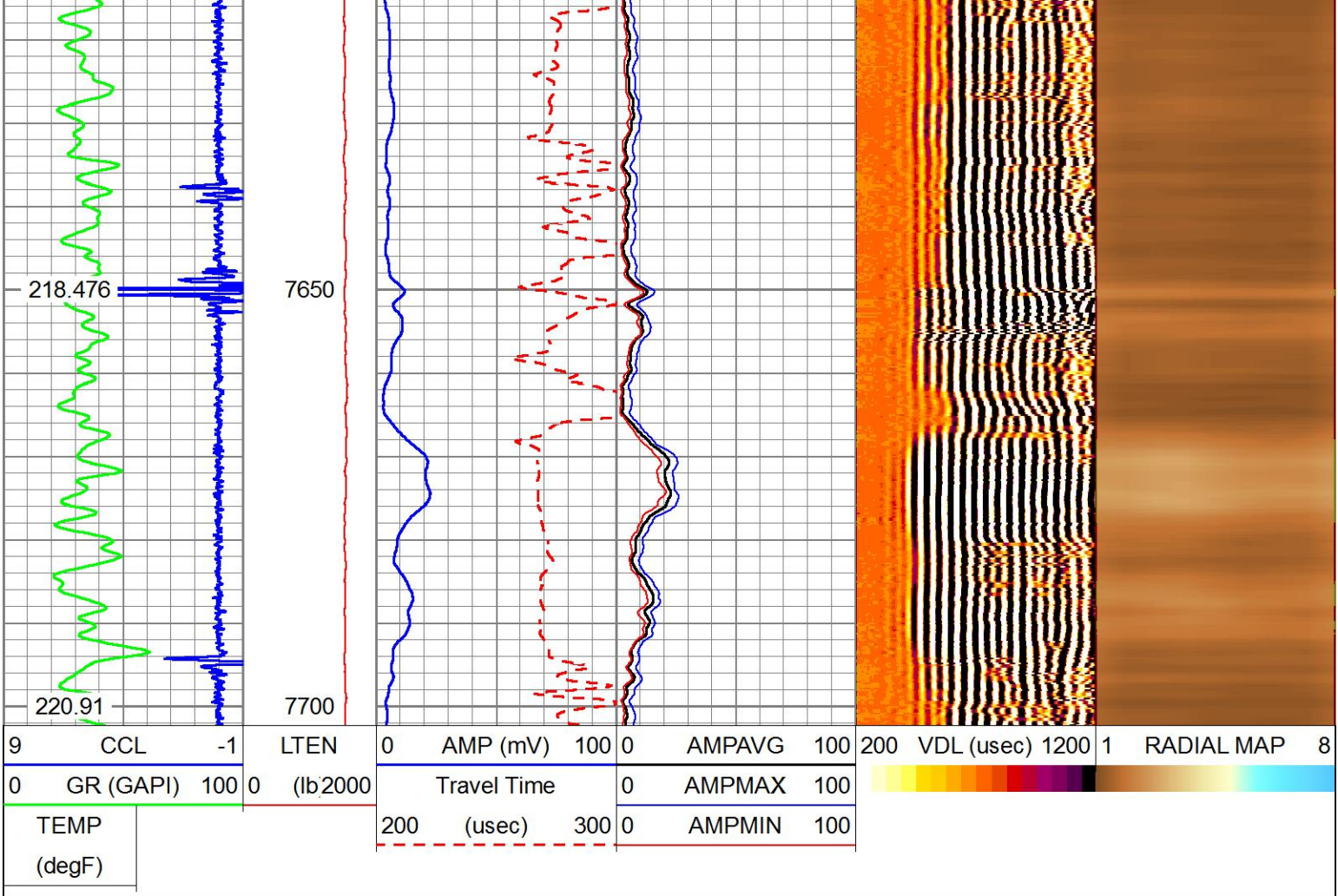


HALLIBURTON

MAIN PASS

5" = 100'





REPEAT PASS

HALLIBURTON

5" = 100'

Log Variables

DatabaseC:\ProgramData\Warrior\Data\extraction coyote trails 33w_15_5n.db
Dataset Coyote_Trails/33W-15-5N/run1/MAIN/_vars_

Top - Bottom

BHTEMP_Src	BITSIZE	BOTTEMP	CASEOD	CASETHCK	CASEWGHT	MAXAMPL	MINAMPL
TEMP	in	degF	in	in	lb/ft	mV	mV
	7.875	100	5.5	0.361	20	72	2
MINATTN	MudWgt	PERFS	PPT	SRFTEMP	TDEPTH		
db/ft	lb/gal		usec	degF	ft		
0.8	8.3	0	212	70	16000		

Calibration Report

Database File extraction coyote trails 33w_15_5n.db
Dataset Pathname Coyote_Trails/33W-15-5N/run1/MAIN
Dataset Creation Mon Jul 22 22:25:05 2019

Temperature Calibration Report

Serial Number: 001
Tool Model: T_Temp
Performed: Mon Apr 04 13:27:25 2011

	Reference	Reading
Low Reference:	0.00 degF	0.00 cps
High Reference:	1.00 degF	1.00 cps
Gain:	0.10	
Offset:	0.00	
Delta Spacing	1	

Type / Serial: probe275dig / pr050806					
SHOP CALIBRATION			Tue Nov 01 09:40:24 2005		
Background Calibrator	Counts/Sec.	Gain	Offset	Jig	Units
	79.3				cps
	459.5	0.6312			cps GAPI/cps
PRIMARY VERIFICATION			00:00:00		
Background Calibrator Difference	48.3				cps
	288.5				cps
				240.2	GAPI
BEFORE SURVEY VERIFICATION			00:00:00		
Background Calibrator Difference	47.8				cps
	290.6				cps
				242.8	GAPI
AFTER SURVEY VERIFICATION			00:00:00		
Background Calibrator Difference	35.8				cps
	286.1				cps
				250.2	GAPI

Segmented Cement Bond Log Calibration Report

Serial Number:	051010	
Tool Model:	Probe	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	7684.985	ft

Master Calibration, performed Mon Jul 22 17:24:06 2019:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.012	0.541	1.000	72.000	134.177	-0.559
CAL	0.012	0.660				
5'	0.017	0.246	1.000	72.000	310.369	-4.372
SUM						
S1	0.011	0.641	0.000	72.000	114.296	-1.226
S2	0.010	0.610	0.000	72.000	120.105	-1.248
S3	0.011	0.576	0.000	72.000	127.397	-1.345
S4	0.011	0.554	0.000	72.000	132.482	-1.423
S5	0.011	0.542	0.000	72.000	135.567	-1.519
S6	0.011	0.534	0.000	72.000	137.748	-1.549
S7	0.011	0.538	0.000	72.000	136.752	-1.559
S8	0.011	0.564	0.000	72.000	130.115	-1.415

Internal Reference Calibration, performed Tue Oct 11 09:01:28 2005:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.012	0.660	1.000	0.000

Air Zero Calibration, performed Mon Jul 22 15:56:42 2019:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.000		0.000		0.000	
5'	0.000		0.000		0.000	
SUM						
S1	0.000		0.000		0.000	
S2	0.000		0.000		0.000	
S3	0.000		0.000		0.000	

S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
WVFCAL WVF3FT	11.94		CHD-1-7/16 (12345678) Monocable Head Assembly	1.28	1.44	1.50
			CENT-Probe_275 Probe 2 3/4 Centralizer	2.88	2.75	20.00
			RBT_PRB275-Probe (051010) Probe Radii Bond Tool with Digital Telemetry	8.33	2.75	90.00
WVF5FT	9.94					
CCL	5.40		CENT-Probe_275 Probe 2 3/4 Centralizer	2.88	2.75	20.00
GR	4.02		GR_PRB275-probe275dig (pr050806) Probe Digital Gamma CCL	4.75	2.75	57.00
			TEMP-T_Temp (001)	1.48	1.38	5.00

TEMP	0.42			Titan 1.375 Temp Tool			
Dataset: extraction coyote trails 33w_15_5n.db: Coyote_Trails/33W-15-5N/run1/MAIN Total length: 21.59 ft Total weight: 193.50 lb O.D.: 2.75 in							

Company	EXTRACTION OIL & GAS INC				
Well	COYOTE TRAILS 33W-15-5N				
Field	WATTENBERG				
County	WELD		State	CO	
HALLIBURTON	RADIAL CEMENT BOND LOG				